



Can Department of Marine and Lisheries, Canada

Meteorological service

# MONTHLY WEATHER REVIEW

BY

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TORONTO

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# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Meather Review

VOL. XXXVI.

JANUARY, 1912

No r

#### TEMPERATURE.

### BRITISH COLUMBIA.

On Vancouver Island and along the Lower Fraser the mean temperature of January differed very little from average. But along the Upper Fraser and the Thompson River, as well as in the Okanagan Valley and the Kootenays, the month was from 6° to 8° colder than usual. Near the head-waters of the Fraser the temperature was almost continuously below zero for the first twelve days. In the Okanagan and Kootenay districts, although the daily minima were at many stations from 5 to 25° below zero during the same period, yet at some time during each day zero was exceeded. From the 22nd to the end of the month the weather was much milder, maximum temperatures exceeding 45° in several districts.

# THE WESTERN PROVINCES.

At Calgary the mean temperature was normal, but elsewhere in Alberta there was a negative departure from average of about 2. During the first fifteen days temperatures below zero ranged from 5° to 57°, the coldest day being the 10th. The lowest temperatures occurred in the country about the Peace and Athabasca Rivers, although on the 10th and 11th, the minimum temperatures along the North Saskatchewan River were 50° below zero at Pakan and 49° below at Ranfurly. A chinook wind raised the temperature during the night of the 15th to 53° at some points along the Red Deer River, but mild weather was not of general occurrence till after the 21st, from which date till the end of the month temperatures below zero were not registered in the basin of the Red Deer or in the country to the south of it. The highest temperature of the month was recorded at nearly all places on the 29th or 30th.

In Saskatchewan the range of difference from average was from 5 below to 13 below. Almost everywhere in this province the temperature was below zero on the first day of the month and remained below continuously for 15 days. During the remainder of the month, day temperatures generally exceeded 10°, but night temperatures which were below zero were of frequent occurrence. The lowest temperature of the month occurred on the 10th or 11th and was 50 below or lower. The highest temperature of the month occurred on the 30th, but did not exceed 43° at any place, nor 36 in the majority of instances.

In Manitoba temperature conditions were nearly the same as in Saskatchewan, but the range of difference from average was from 8° to 13° below. The coldest days of the month were the 10th and 11th, while the warmest were the last two.

### ONTARIO.

The greatest differences from average temperature occurred in the districts bordering on Lake Superior. In Algoma, Thunder Bay and Rainy River Districts the mean temperature of the month was from 11 to 18 below normal. In the counties bordering on Lakes St. Clair and Eric there was also a marked deviation from normal, amounting to about 15. Throughout the remainder of Ontario the differences ranged from 8° to 12°. The actual mean daily temperatures which occurred in the Lake Superior districts were considerably lower than any which occurred in the remainder of the province, with the exception of those reported from the eastern counties and the Upper Ottawa River. The extreme minimum temperature of the month varied from 30° to 58 below zero in the northern districts, but in the southern counties was generally higher than 20 below. The month was one of the coldest on record in Ontario.

## QUEBEC.

Along the middle St. Lawrence and in the Lake St. John district temperatures were from 8° to 10 below normal; in the Abitibi region, where the weather of the month was similar to that which obtained in the Lake Superior districts, more than 12 below. In the Gulf counties, however, the weather was milder, differing from average by about 6°. At all places any distance from the river, temperatures of 10 below zero or lower, were registered on the 13th or 27th.

### THE MARITIME PROVINCES.

The mean daily temperature was from 4 to 7 lower than normal in the Maritime Provinces. The coldest periods were from the 7th to the 14th, and from the 20th to the 28th, when temperatures below zero occurred frequently.

The highest and lowest temperatures recorded during the month of January, 1912, were:

	HIGHEST,		LOWEST.
British Columbia	at Clayoquot on the 29th,	15	at Ft. St. James on the 11th.
Alberta	at Harmattan on the 15th,	53	at Ft. Vermilion on the 5th.
Saskatchewan	at Maple Creek on the 15th,	ñ.	at several points.
Manitoba	at Aweme on the 30th,		at Le Pas on the 10th.
Ontario	•	58	at White River on the 6th.
	the 1st,		
Quebee	at Sherbrooke on the 19th,	57	at Manouan Crossing on the
			27th.
New Brunswick 51		-31.5	at Fredericton on the 27th.
Nova Scotia51.9			at Truro on the 26th.
P. E. Island	at Charlottetown on the 9th and 19th.	-15	on the 27th.
	and reth,		

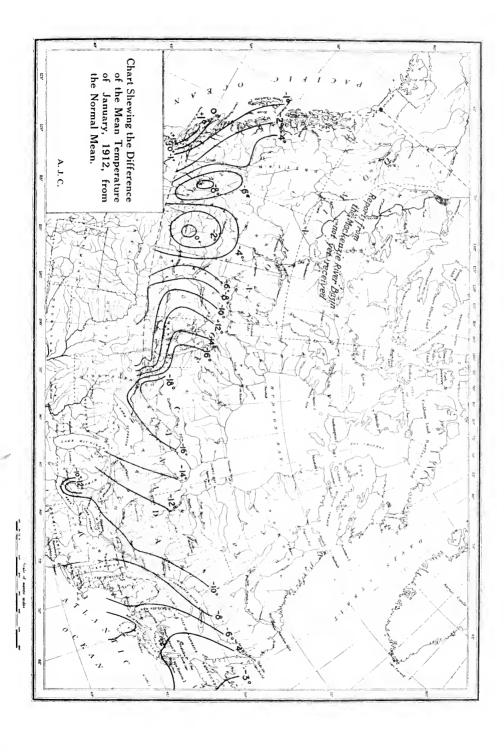
### PRECIPITATION.

# BRITISH COLUMBIA.

There was an excess over normal of one inch in the Lower Fraser valley, and a deficiency of about one inch in the Cariboo region; elsewhere in the province the differences from average were small.

# THE WESTERN PROVINCES.

Snow fell on from 3 to 10 days during the month and was generally in excess of average by a small amount, in Alberta. But in Saskatchewan and Manitoba there was a general deficiency equivalent to from 50 to 70 per cent, of the normal amount. In Manitoba snow was recorded in many districts on but one day.



### ONTARIO.

There was an excess of about 20 per cent, in the Georgian Bay counties, locally in the Lake Eric counties and along the Upper Ottawa river. Elsewhere in the province there was a deficiency.

# QUEBEC.

In southwestern Quebec the precipitation was nearly average, but along the Lower St. Lawrence there was an excess which at Father Point was 30 per cent, of the normal amount.

# THE MARITIME PROVINCES.

There was a deficiency of precipitation amounting to from 40 to 50 per cent, of the average in the greater part of New Brunswick, in southwestern Nova Scotia and Prince Edward Island. Over the greater part of Nova Scotia there was an excess of about 10 per cent.

### ATMOSPHERIC PRESSURE.

The mean value of the atmospheric pressure for January was in excess of the average over Northern British Columbia, and from Eastern Saskatchewan to Lake Superior; elsewhere in Canada the normal was not reached. Negative departures were more than a tenth of an inch over the Maritime Provinces and about half that amount over Ontario, Quebec and Southern British Columbia. In Eastern Saskatchewan and Manitoba the positive departure was generally about 0.04 of an inch.

### HIGH AREAS.

Eleven areas of high pressure were traced; five first appeared over or in close proximity to the Yukon Territory, two a little to the northward of Alberta, two to the northward of Manitoba and two on the coast of the Middle Pacific States. The general track of the centres of the areas was well to the southward of the Great Lakes, thence off the Atlantic coast and out to sea. The systems with few exceptions were of marked energy attended by very cold conditions, the result being that the weather of the month was extremely cold over nearly the whole continent.

### LOW AREAS.

Sixteen areas of low pressure were charted. Seven first appeared on the British Columbia coast, usually well to the northward, one in Northern Alberta, three on the North Pacific States coast, two in the Gulf of Mexico, two off the Carolina coast and one to the northward of Lake Superior.

The general track of the areas was either over or to the southward of the Great Lakes, thence to the Maritime Provinces and Newfoundland. Some of the systems were very pronounced, particularly during the first two decades and especially as they reached our Atlantic coast and Newfoundland, resulting in several exceptionally heavy gales over the latter districts.

# SNOW ON THE GROUND.

From Stewart, in far Northern British Columbia, 40 inches of snow were reported upon the ground at the close of the month. Rossland, in the West Kootenay, gave 38 inches as the depth of snow on the ground at the beginning of the third week, and reported excellent sleighing on the 31st. In the Okanagan Valley, however, a great part of the snow had disappeared. In Keewatin the snow covering exceeded 20 inches; in the Western Provinces, generally, the depth was from 2 to 8 inches. 20 to 30 inches of snow covered the ground in the Highlands of Ontario and a lesser quantity, varying with the districts, in other parts of the Province. In Quebec, a depth of 13 inches at Montreal increased to 60 inches over the Gaspé Peninsula, while in the Maritime Provinces the snow was about 2 feet deep in Northern New Brunswick, the depth decreasing to about half an inch in Southwestern Nova Scotia, although Cape Breton Island was covered with about 30 inches.

# THICKNESS OF ICE.

Thickness of ice was reported as follows:

Western Provinces.—Battleford, 28 inches; Swift Current, 30; Moose Jaw, 30; Qu'Appelle, 23; Minnedosa, 24.

Keewatin.—The Pas, 22.5 inches.

Ontario.—Port Arthur, 30 inches; Cochrane, 12; Southampton, 18; Port Stanley, 20.5; Kingston, 18; Ottawa, 25; Georgetown, 14; Paris, 18; Lucknow, 13; Bruce Mines, 14; Barrie, 14.

Maritime Provinces.—Chatham, 17.5 inches; Sydney, 14; Charlottetown, 22.5; Fredericton, 23; Yarmouth, 12.

# WINDS, JANUARY, 1912

PROVINCES AND STATIONS	Total Mileage.	Greatest Mileage in 24 hours.	Greatest Mileage in one hour	Number of days of Gales.	Number of days of Strong Winds.	Number of days of Fresh Winds	General Direction
PRITISH COLUMBIA							
Victoria Steveston	5521 4323	454 362	33 28	2	5 S	13	E.
AIBULEY							
Lelmonton Calcary	3730 3114	33.) 284	27 32	1	1 .	4	NW NW.
SASKATO DEWAY							
Battleford	4526	295	19		1	8	NW.
Manifora	7394	484	30	1	1	`	NW.
UNTARIO							
Port Arthur Party Sound Southampton Weekstock Godglift Totomto	7325 6075 9946 7439 7497 12530	426 408 808 555 693 965	39 26 40 46	3	3 12 	5 5	NW NW. SW. W. & NW. W.
OTEBEC							
Quebec Lather Point	12176 13077	865 1186	62 68	10 12	9	5 4	NE. E.
MARHIME PROVINCES.							
Lr deneton 81 John Point Lepreaux Hafit (2) 83the Island Ltar Point Charlottetown	7550 81474 16422 10674 18102 16732 7550	543 866 1430 847 1201 1073 662	37 53 69 50 57 44	1 10 16 7	11 9 11 12 	6 7 3 5 10	NW. NW. NW. NW. NW. W & NW. NW.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1912.

*Stations but furnished with Paristoring Thornameter	

							Темр	ERATUR	E,			PRE	IFITATIO	N.	4			3.	
STATION.	Latitude N.	I ongrude W.	Ellevation above sea level, in fect	Mean.	Difference from	Yes Observations	Highest.	Date.	Lowest	Perro	Mean doily carge	Ansount	Difference from average.	Heaviest fall in month.	Days with 20 or more	No of far days,	No of unroras	No of thunderstorne,	No. of logs.
BRITISH COLUMBIA—														_	_	_	_	_	_
S. Vancouver Island	0 /	2 /																	
Alberni (Beaver Creek) Clayoquot Covictian (Tzodkalen) Laberer Nanaimo Salt Spring Island Sioke Victoria	49 15 44 11 48 25 49 05 49 10 48 50 48 41 48 24	124 49 125 47 129 42 123 4 123 37 125 20 125 44 123 19	300 40 170 125 25 85	34 2 41 9 37 6 28 0 27 1 39 4 40 6	- 1 7 + 1 2 + 3 5 + 0 7 + 0 5	15 13 6 11 11 3 2 20	52 H 58 5 51 8 56 0 51 0 54 0 54 0 52 5	30-31 20 16 23-26 14 14 14-25 24	10 0 25 0 14 5 14 0 19 0 22 0 20 0 23 5	1 7 7 1 1 1 1 1 1	10 5 12 6 10 3 12 1 8 6 8 1 9 8 7 2	P) 56 17 83 6 51 4 70 6 10 5,66 6 52 4 15	+0 76 +3 21 -0 02 -0 46 -0 39	1 40 2 45 1 60 0 75 1 12 0 75 0 97 0 54	19 21 17 11 15 16 13 20	12 10 14 20 15 15 11			2
N. Vancouver Island																			
Holberg Swanson Bay Triangle Island Winter Harbour (Quatsino).	50 39 50 37 50 52 50 32	128 18 126 53 120 5 127 40	680	37 0 32 1 35 7 38 9	+ 1 0	1 1 15	51 2 52 6 44 0 55 0	29 15 22 23	21 0 12 0 24 0 22 0	1 6 7 1 6 7	5 7 10 3 4 0 9 7	29 53 21 67 5 93 14 87	=	3 65 6 75 1 57 2 (S	17 16 23 16	14 15 8 15			21
Lower Fruser River																			
Agassiz, Hope New Westminster North Niromea Pemberton Hatchery Ruskin (Stave Falls) Steveston Garry Point) Vancouver	49 14 49 23 49 13 49 12 50 20 49 16 49 21 49 17	121 31 121 25 122 54 122 2 122 31 122 23 123 17 123 5	330 50 125	34 8 27 2 35 5 32 5 22 6 32 4 35 1 37 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21 25 20 4 3 16	53 0 45 0 51 4 55.0 41 0 48 0 54 0 52 1	21 13-30 23 29 30 30-31 15 21	$\begin{array}{c} 12 & 0 \\ 3 & 0 \\ 13 & 6 \\ 6 & 0 \\ -1 & 0 \\ 6 & 0 \\ 14 & 0 \\ 15 & 8 \end{array}$	2 7 1 1 2 2 3 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	12 9 10 1 9 8 11 9 8 2 12 5 9 5 5 1	4 51 6 44 8 30 10 10 3 63 6 88 5 52 8 47	-1 73 -1 75 +1 76 -1 76 -1 20 +1 29	0 82 1 30 0 85 1 30 0 75 1 21 9 75 0 97	13 14 20 17 10 20 18 22	18 17 11 14 21 11 13 9			2 - 1 1 2
Upper Fraser River																			
Babine Lake Barkerville Chilcotin (Big Creek) Fort St James (Stuarts Lake) Quesnelle	55 08 53 02 51 40 54 25 52 50	123 0	4180 . 3100 . 2280 .	12 7 11 2 5 8 8 2	- 5 8 - 4 1	22 9 19 17	40 0 52 0 . 37 0 . 43 0	29 14 29 29	$-25 \ 0$ $-31 \ 0$ $-45 \ 0$ $-31 \ 0$	10-11 7 11 10	14 3 2 - 1 19 1 17 0	0 86 0 25 1 32 0 45	—1.87 —0.25 —0.71	0 30 0 25 0 26 0 20	6 1 9 3	25 30 22 28	. 2		1
Okanagan Valley																			
Pairview Hedley (Nickel Plate) Okanagan Mission (Kelowna) Penticton Princeton Summerland Vernon (Coldstream Ranch)	49 11 49 35 49 52 49 29 49 29 49 57 50 14	120 10 119 23 119 35 120 23 119 0	1200 1650 1100 1246	21 9 21 3 18 2 20 3 26 5 15 6 21 5 10 7	$\begin{array}{c} - \\ - \\ - \\ - \\ 3 \\ - \\ 7 \\ 5 \end{array}$	15 5	46 0 45 0 41 0 42 0 48 0 41 0 43 0 41 0	21 29 22 11 30 22 29 29 24	$\begin{array}{c} -4.0 \\ -12.0 \\ -20.0 \\ -14.0 \\ -17.0 \\ -7.0 \\ -18.0 \end{array}$	3 6 7 7 3 7 7 2	10 4 12 6 13 7 13 9 11 1 17 6 11 6 13 5	0 72 0 72 2 65 2 07 1 01 1 59 1 52 2 38	÷0.71 -0.78 -1.30	0 25 0 75 0 40	\$ 12 10 10 7 5	21 23 19 21 21 24 23 23			1
West Kootenuy						1													
Fruitvale Grand Forks Greenwood Needles Nelson Rossland	49 9 49 2 49 5 49 40 49 21 49 5	) 118 9 1 117 21	1760 3400	17 0 23 2 22 9 21 0	- 5 5	1 10 10	43 0 43 0 43 0 43 0 39 0	30 30 30 30	-21 0 - 7 0 - 4 0 - 5 5	2.5	12 6 11 3 10 8 6 7	2 05 3 00 3 58 3 61	= =	0 47 1 20 0 70 0 60	16 7 15 12	93			
East Kootenay																			
Akamina(S. Kootenay Pass) Boswell Cranbrook Tobacco Plains (Elko) Wilmer	49 10 49 14 49 30 49 50 3	) 116 41 ) 115 50 l 115 5	4150 2684	14 9 17 4 9 6		3 16 3	47 ()	30 26-30 30	-26 0 $-17 6$ $-20 5$	7 3	20 2 11 8 13 3	6 20 1 10 2 23 1 14		0 40 0 70 0 50	5 5	26			
Thompson River																			
Enderby Kamboops Nicola Lake Salmon Arm @Tranquille.	50 33 50 4 50 4 50 4 50 4	1 120 29	9120	17 6 17 0 16 2 20 7 17 7	- 6 - 7 - 6	7   10 7   21 3   17	46.0	25	-22.0	7 2 2 3 1 2	8 3 12 3 13 5 12 3 13 6	3 19 1 18 1 24 2 76 0 75	402	2 0 80 3 0 40 2 0 35 1 53 0 25	13 10 9 4 4	21	:		
North Cotumbia River																			
Golden . Glacier Revelstoke	51 I 51 I 51	6   116 55 4   117 25 0   118   6	4072	13 7 10 1 17 0		10   10   11	35.1	- 30	$\begin{array}{c} -32.0 \\ -13.0 \\ -17.0 \end{array}$	1 7	13 7 10 2 11 6	1 95 7 9 5 31	-1.9	i 1 30	1.7	10	5		1

# DEPARTMENT OF MARINE AND FISHERIES. CANADA:-METLOROLOGICAL SERVICE.

T IMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1912.

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ALBERTA N. Seeding to the Reserve																		1	
I Communication of the Communi	52 52 53 53 53 53 53 53 53 53 53 53 53 53 53	112 17 153 72 172 4 173 17 174 1 171 54 172 4 171 58 113 23	2105 2705 2401 2401	- ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	- 2 1	6/4 5011	12 4 1 5 4 1 5 5 5 7 1 5	15 30 30 22	-3x 0 -40 - -3x 0 -45 0 -52 0 -11 0	10 10 10 10 10 10	15.7	0 7: 1 15 0 35  0 46 1 55 9 50 0 77		0 20 0 40 0 2; 0 30 0 40 0 20 0 14	6 9 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	25 22 29 29 24 24 24	3		3
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T + R I I In \( \text{r} \) R_{\text{s}} \( \text{V} \) \( \text{V} \) \( \text{D} \) (a.3.5) \( \text{L} \) (a.3.5) \( \text{L} \) (a.3.5) \( \text{H} \) (a.3.5) \( \text{H} \) (a.3.5) \( \text{H} \) (a.3.5) \( \text{L} \) (a.3.	20 3 4 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	111 10 112 25 114 22 114 2 115 2 115 44 105 40 415 11	2451 2505 2505 250 250 250	15 5		. 410	4. X 10 10 10 10 10 10 10 10 10 10 10 10 10	15 15 15-22 15 25	-1: 0 -1: 1 -1: 1 -0: 1 -0: 1 -1: 1 -1: 1	10 11 11 11 11	15.1	0 40 0 58 0 10 0 40 0 50 0 70	-	0 10 0 25 0 10 0 30 0 10 0 20	5 1 2 5 9		3 1		1 2 3 2
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# DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METFOFOLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1912.

			_				Темр	ERATUR	E			Pre	IPITATIO	)N.	more			I.
STATION	Latitude N	Longitude W.	Elevation above sea   Tevel, in feet.	Mean.	Difference from average.	Yr's observations	Highest.	Date.	Lowest.	Date.	Mean dark range	Annumt.	Difference from average.	Beryast fall in month	Ξ	No, of fair days,	No of Amous-	No of thumberstonns   No of for-
Saskatchewan—																		
Qu'Appelle River	0 /	- ,																
Brownhill (Grenfell) Brownlee Crescent Lake Estevan Hubbard Humboldt	50 23 50 45 50 59 49 12 51 5 52 12 51 22 50 28	102 53 106 0 102 25 103 4 103 30 105 9	1957 1658 1858	- 9 7 -15 5 - 4 2 -12 9	-7 \$ -5 1	21	33 0 32 0 35 0 30 0	31 30 29	-45 0 -45 4 -42 0 -50 0	11 11 10 11	19 9 22 3 17 4 16 0	14 1 20		0 36 0 04 0 10		25 27 29 31	1	1
Imperial Indian Head Manor. Moose Jaw Moosomin Muenster (St. Peter's Pilger Pense (Gatesgarth) Qu'Appelle Qu'Il Lake	49 43 50 21 50 0 52 0 52 25	105 23 103 40 102 2 105 35 101 37 105 0 105 9 105 0 103 47 104 14 114 37	1924 2064 1759 1884 1870 1879 2115 1600	- \$ 1 - 3 6 -11 4 -14 4 -12 5 - 6 7 - 8 4 3 -14 3	-93 $-60$ $-130$ $-104$	21 17 9 8 1 17 25	36 0 35 0 35 0 35 0 37 0 36 0 30 0	30 30 30 30 30 30 30 30 30	-47 0 -44 0 -47 0 -54 0 -55 0 -48 0 -47 0 -54 0	11 11 11 10 10 10	17 6 17 7 15 8 20 2 20 6 15 5 25 0 16 7	0 34 0 25 	_ —⊢ 33	0 30 0 10 0 10 0 17 0 25 0 14 0 26	1 3 3	2 2152421	_	200
Regina Strassburg Yarbo (Fairfield) Yellow Grass Yorkton	50 27 50 39 49 47 51 11	114 37 102 4 104 9 102 29	1885	- 7 S - 4 2	- 4 5	25	35 U 42 n	30	-43 U	10	16-7	0.14	→0.24	0.05	5	26		
S. Saskatchewan River																25		
Chaplin Battle Creek Gravelbourg Larchmount (Glenbryan Maple Creek (Divide) Oliver Rathmullen	50 26 49 54 49 55 51 46 51 29	106 39 107 27 109 28 108 10 108 57	2292  3500	4 9 - 1 3 - 6 3 - 7 4 - 6 9		24 2 2 2 2 2	36 0 38 0 42 2 36 0 32 3	23 31 15 23	-49 0 -53 0 -43 4 -55 0 -51 2	10 11 11 11	19 7 21 0 15 7 17 3 21 1	H 40 H 44 H 69 U 40	_	0 (2 0 20 0 10 0 20 0 13		27 27 27 27 27 25	1 1 4	1 2
N. Saskatchewan River	01 -			- " "		-	02 0		0, 0	**								
Battleford . Lloydminster Luseland Prince (Meota) Scott (Ex. Farm) Waseca	52 41 53 18 52 5 51 6 51 59 53 6	108 20 110 0 109 34 108 20 109 30 109 29	1620 1700	$\begin{array}{r} -6.8 \\ -6.9 \\ -5.2 \\ -11.2 \\ -7.6 \\ -7.2 \end{array}$	- 5 6	22 6 1 6 1 5	36 0 35 0 35 0 33 0 31 ° 33 0	30 31 21-31 30 21 30	-46 0 -49 0 -53 0 -52 0 -45 3 -45 0	11 11 11 10 11	14 2 15 3 16 5 22 3 18 9	10 12 11 55 11 25 11 37 11 40	-0 44 - - 	0 01 0 20 0 10 0 15 0 15	5 3 7	26 28 24 26	1	3
The Saskatchewan Forks																		
Chagoness Duck Lake Melfort Prince Albert Rostbern Saskatoon	52 32 52 54 52 47 53 10 52 40 52 15	104 13 106 20 104 30 106 0 106 20 106 30	1432 1657 1571	-11 4 $-12 5$ $-12 4$ $-12 5$ $-9 5$	- 9 1 -11 3	3 26 2 26 26	30 ft 30 ft 34 ft 34 4 33 ft	30-31 30 31 31	-55 0 -45 0 -53 0 -54 1 -55 0	11 10 11 11-12 11	16 0 18 1 17 6 19 5 16 0	0.50 0.10 h.30 —	_	0.20	1	27 3 29	3	
Lower Saskatchewan Ricer																		
Lost River	53 56	102 16		$-15_{-14}^{0}$ 0	-	1	31 0 34 0	31 30	-14 D	10	20 1 15 0	=	_	Ξ,	=	_		
Manitoba— Qu'Appelle and Assini- boine Rivers																		
Aweme (St. Albans) Birtle Brandon Carberry Carman	49 42 50 25 19 51 49 52 49 31 19 33	99 38 191 1 99 37 99 20 95 0	1180 1703 1176 1258 872	-12 2 -12 7	-10 0 -10 6	25 25 7	30 0 29 9	30 30	-42 H -45 4	13	19 6 19 0	0 13 0 11 0 23	-0 79 -0 53	0 13 0 10 0 20		25 25 30	4	
Cypress River Hillview Minnedosa Ninette Ninga Pierson Pipe-tone	49 55 50 15 49 24 49 14	98 0 99 3 100 33 99 50 99 38 99 51 101 5 100 58	872 1232 1400 1699 1362 1649 1531 1400	-13 2 -12 7 - 7 1 -13 6	= 8 5 =12 1	26 25 1 2	25 0 27 5 50 0 22 0	30 31 30 22	-45 0 -45 0 -42 0 -41 2	10-11 11 11	15 2 18 3 18 9 14 8	11 (1) 11 (4) 11 (2) 11 (4)	-0.72 -0.39 	0 30 0 25 0 15 0 60	1 9 2	22.5	1	
Portage la Prairie Portage la Prairie Portage la Prairie (2) Treherne Virden	49 11 49 34 49 57 49 56 49 36 49 51	100 58 100 58 15 17 25 17 48 40 100 55	1400 830 1212 1444	$-12 \ 5 \ -11 \ 2$	= 3 5	22 16	21 0 26 0	30-31	-43 ( -42 o	11 11	17.2 In 0	11 35	-2 52	0 15 0 18	3.4	ň		
The Red River  Almasippi Mordon Oak Bank Stony Mountain Winnipeg	49 14 49 11 49 57 50 40 49 53	98 20 95 6 96 42 97 14 97 7	975 800 803 760	-12 6 -11 0 -13 1 -14 1 -11 5	-10 6 -11 3 -12 7 - 5 9	10 8 17 30	27 0 25 0 23 7 23 0 24 8	31 31 31 31	-45 0 -43 0 -43 5 -47 0	11 11 11	19 7 17 4 15 8 21 6	0.35	-0.51 -0.30 -0.67	0 20 0 30 0 20 0 05 0 07	3 4 4 2 4	A4450		

# DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1912. \*Stations not furnished with Registering Thermometers

								Темр	ERATUR	i.			PR	ECIPITAT	ION	nare.	,		×	
STATION	I atritude N		Longitude W.	Elevation above sea	Mean,	Telformer from	Yr sodos ryatiors	Dighest	Lue	Lowest	125,400	Mean dody range	Amount.	Difference from	Heavier fall in month.	Days with 01 or in	No of fair days.	No of auroras.	No. of thunderstornes	No of fogs.
Manitoba- Continued																				
Dauphin Luke and River Dauphin Mouse Horn Bay Artkeus- ville) Bereas Rivet	51 51 52	15	99 33 97 23	957 715	-11 8 -16 2 -21 6					-40 5 -42 5 -45 0	11 11 10	18 8 15-0 16 9	0.32	_	S 0 10 0 80 0 80	0 11 1	31 20 30	1		
Lake Winnipegosis			100 15	4.1.20			,					10.5			0.20		30			
Swan River Le Pas	53	49	101 15	860	$-16 \ \frac{3}{7}$	-	2	22 0	31		10	15 5	0.02	_	0.02	1	30			
Октукю—																				
Kenora	49	4	94-32	1102	-15 3	-17.9	13	18 1)	31	<b>-45</b> 0	11	15 6	0 45	-	0.35	2	29	1		
Tleunder Laty Nakabeka Palls Port Arthur Schreiber	48 48 18	25 27 30	89-26 89-12 87-15	912 644 933	-13 S -7 7 9 1	-14 7	31 10	36 0 23 0 22 5	30 29 17	-45 0 - 25 0 -40 5	7 12	28 1 20 1 25 1	0 40 0 26 1 95	43	0 25 0 18 0 60	4 6	37 25	4 2		1
Manifordar Continued			22.7	2 00	_0 m	0.81	9	22 24	2											
Porcumine	15	10	81 18 82 14	1252	3.5	-11 1	1	34 0	1	-28 C	6-13	23 8 23 8 29 1			0 50 1 40 0 60	7 10 7	21 21 21			
Chehrane Hadeybury	17	2 29 8	79.09		-10 8 -5 7 1 6	-10 1	- 18	21 0 21 6 52 0	18 29 18 19 20	-50 0 -30 8	6	20 0 21 4 31 3	1.10	_	0 60 0 52 1 00	3 13 10	28 18 21	3		1 2
Upper Ottawa River																				
Maximum   Maxi		0.40	14 12	17 19																
Upper St. Lawrence																				
Montague North Gower Ottawa	44 ; 45 ; 15 ;	56 26	75 57 75 43 75 12	294	9.4	-9 6 -10 4	2	36 (	18	-36 5 -27 0	13	20.8	3 100	) 191	0 40 0 80 0 75 0 60	17 6 15 15	14 25 16 15			
Georgian Bay Counties										, .	,,,									-
Bentiner Coldwater Coldwater Coldingwood Gravenburst Huntsville Widdhad Ordan Owen Sound Party Sound Borty Sound Harty Sound Harty Sound Harty Sound Harty Sound Harty Sound Harty Sound Harty Sound Harty Sound Harty Sound	15 11 11 15 15 14 15 15	S S G S G S G S G S G S G S G S G S G S	79 40 80 2 79 20 79 8 79 53 79 24 80 55 80 0	750 1 775 775 597 635	9 6 8 11 2 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	-13 # -8 # -13 2 -10 9 -9 5 -9 7	23 20 41 5 4 18 31 36 5	35 0 34 0 36 0 38 0 38 0 32 0 35 0	18 18 18 18 18 18 18	- 16 0 -27 0 -18 0 -42 0 -29 0 -31 0 -31 0 -20 0	13 6-26 13 13 26 13 26 13	10 0 26 1 22 1 11 5 21 0 20 3 24 2 14 0	4 98 2 10 1 68 7 10 4 28 6 90 7 30	+1 3! -1 +2 47 +2 81	1 10 0 80 - 0 80 1 20	15 18 6 19 	16 13 25 12 14 19 21 12 			
															1	'				
Clinton North Ernee Point Clark Sama Southampton	11 : 11 :	5	81 37 81 25 1 81 44	393 586	10 8 10 9 13 2 12 1		23 39 17	35 0 34 0 — 37 0	18 - 18	-21 0 -20 0 -20 0	13 25 ———————————————————————————————————	12.6	40 3 2 67 2 10 0 60	-0 55 -1 27	0 68 0 44 0 50 0 49 0 50 0 55	10 18 18 8 1 23	21 13 13 23 30 18			:
Niagara Peninsula																				
Cottam Grumsley Peleo Island Fort Burwell Port Dover Port Studies St. Catherina	12 43 41 12 13 14 15 15 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	26 27 11:	80 55 80 13 81 12	585 585 582 675 582 317	11 5 11 9 7 8 12 0 9 4 12 1	-11 6 -15 3 -12 8 -11 3	4 m 5 / 5 6	42 0 42 0 31 0 35 0 35 4 35 2	1 2 1 24 18 18 18	-1° 0 12 0 -6 0 -21 5 20 5	12 13 10-21 13 13	20 4 1 15 2 13 3 13 1 13 8	2 38 2 11 3 39 2 73 3 57	+0 05 +0 68 +0 20 +0 23 -0 82 -2 26	0 53 0 50 1 32 0 60 0 46 0 76 0 59 0 56 0 30 0 70	6 12 11 5 13 18 20  8 12 11 10	25 19 20 26 18 13 11 23 10 20 21			

# DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1912.

. Stations not furnished with Registering Thermometers.

				158				T1.51	PERATI	111:			1'10	DOIPAT	IoN	offe.			ź
STATION	N of suffering N		Longatude W	Elevation sbove se level in feet.	Mean.	Difference from	Yr's Observations	Inghest	Date.	Lowest.	Date	Mean darly range	Amount	Difference from Average,	Heavest fall in month	Days with 01 or more	No of fair days	No. of auroras	No of thunderstorms,   No of fors
Ontario—Continued—																			
West-Central Counties		,	0 /																
Alton Brantford Guelph London Paris Stratford Woodstock	43 43 42 43 43 43 43	51 10 33 59 12 23 8		5 1059 3 808 5 840 1191	6 0 11 0 10 3 10 8 12 6 8 8 11 1	-10.7	24 29 23	35 8 39 0 38 0 37 5 37 0 37 0 37 0	1 18 1 18 18 18 1 18–19	$     \begin{array}{r}       -26 & 1 \\       -17 & 0 \\       -16 & 6 \\       -24 & 5 \\       -19 & 0 \\       -24 & 0 \\       -19 & 0     \end{array} $	13 12 13 13 13 13 13	15 7 14 0 18 3 14 7 14 5	1 90 1 15 1 80 4 67 2 97 4 89 1 70	$ \begin{array}{rrr} -0 & 37 \\ -1 & 27 \\ -0 & 26 \\ +9 & 95 \\ +0 & 14 \\ +3 & 02 \end{array} $	0.96 0.99	, 11 -4 -11 -19 -11 -12 -8	20 27 20 12 20 19 23	1	. 2
ake Ontario Counties																			
Agincourt. Aurora Humilton Lorne Park Scarhoro Jet. Toronto Toronto Is,(Lakeside Home) Uxbridge	43 43	47 57 16 32 43 40 40 5	79 19 79 29 79 5 79 31 79 29 79 5 79 5	856 303 545 350	10 1 9 5 13 7 11 3 9 6 13 9 14 6 7 5	- 9 4 9.0 	16 4 36 3 71 7 8	37 0 36 2 40 0 41 0 36 0 38 5 38 0 36 0	18 18 18 1 15 15 18 18	$\begin{array}{c} -14 & 1 \\ -22 & 8 \\ -9 & 0 \\ -17 & 0 \\ -17 & 0 \\ -11 & 7 \\ -10 & 0 \\ -25 & 5 \end{array}$	13 13 13 6-13 13 6-28 13	14 0 19 1 11 9 17 4 17 3 14 7 15 0 13 8	2 10 1 61 1 24 1 72 2 97 2 12	-0 20 -0 49 -		15 12 - - - - - - - - - - - - - - - - - -	16 19 		1
ast-Central Counties				1															
Bancroft Haliburton Kimmount Lakeheld Landsay Madoc Peterboro' Ursa	44	$\begin{array}{c} 1 \\ 45 \\ 25 \\ 20 \\ 30 \\ 17 \\ 54 \\ \end{array}$	77 56 78 27 78 30 78 11 78 42 77 29 75 19 78 19	1050 920 1 850 1 872 575 1 722	$\begin{array}{c} 1 & 6 \\ 3 & 3 & 3 \\ 0 & 8 \\ 8 & 6 & 4 \\ 5 & 5 \\ 8 & 0 \\ 3 & 1 \\ \end{array}$	-10 1 -10 6 -14 9 - 6 8 - 9 0 - 7 4	23 26 13 25 31 8 40 5	35 0 35 0 34 0 37 0 35 6 37 0 37 0 36 0	18 18 18 19-20 18 18 1 1	$\begin{array}{c} -45 & 0 \\ -46 & 0 \\ -47 & 0 \\ -21 & 0 \\ -29 & 0 \\ -32 & 0 \\ -29 & 0 \\ -45 & 0 \end{array}$	12 13 12 6 13 13 13	24 9 23 4 26 8 18 7 18 8 16 9 21 4 16 7	2 80 1 45 3 64 5 07 3 52 2 90	-0 99 -0 39 -0 48	0 90 0 40 1 20 1 20 1 50 1 10	5 18 15 10 7	23 13 13 16 21 24	1	2
PUEBEC														(					
Middle St. Lawrence	1																		
Brome. Cap Rouge. D'Erach Montreal Perkin's Mills. Quebec. Ste Anne de Bellevue Shawnigan Fal's Sherbrooke.	45 45 45 45 46 45 46	10 46 55 30 38 48 27 34 32	72 30 71 18 71 23 73 38 75 38 71 13 73 59 72 46 72 6	8.96 187 296	$ \begin{array}{r} 3 & 0 \\ 0 & 9 \\ 3 & 0 \\ 5 & 1 \end{array} $ $ \begin{array}{r} 2 & 3 \\ 2 & 8 \\ 7 & 0 \\ 2 & 9 \end{array} $	-97 -81 -75	31 1 2 37 37 6 9	38 0 34 0 38 0 35 0 34 0 35 2 33 0 39 8	19 20 20 19 19 19 19 19	$\begin{array}{r} -34 & 0 \\ -24 & 0 \\ -30 & 0 \\ -19 & 0 \\ -23 & 5 \\ -23 & 8 \\ -40 & 0 \\ -35 & 5 \\ \end{array}$	$\begin{array}{c} 26 \\ 7 - 27 \\ 7 \\ 6 \\ 7 \\ 26 \\ 13 \\ 26 \end{array}$	18 0 19 1 18 1 13 1 14 8 13 6 22 4 22 1	2 30 3 75 1 60 3 14 3 94 0 60 0 42 2 65	+0 17 -0 61 +0 74 -	1 20 0 83 1 60 1 07 1 33 0 45 0 15 0 92	6 16 6 17 18 2 8 19	25 15 25 14 13 29 23 12	2	2
ower St. Lawrence & Gulf	10	02	, ,	0217					• • •	0.7 1.									
Anticosti, E. Pt Anticosti, S.W. Pt Anticosti, W. Pt Bicquet Cape Chatte Cape Magdalen Father Point.	49 49	52 25 6 16 31	61 4: 64 3: 68 5: 66 47 65 2: 68 1:	30	9 2 7 4 3 1 3 9 5.3 2.8	$\begin{array}{rrrr} -23 \\ -& 2& 7\\ -& 7& 6\\ -& 5& 3\\ -& 6& 0 \end{array}$	29 31 23 29 34	31 0 30 0 32 0 29.0 34 9 33 0	19 19 19 19 19	-17 0 -12 0 -24 0 -10 0 -12 0 -21 3	24 24 27 7-23 27 27	 	2 68 4 45 5 80 1 30 2 45 3 89	+0 63 - -1 34	0 28 1 10 3 60 0 40 0 50 0 90	6 11 8 4 12 9	25 20 23 27 19 22		
ake St. John																			
Chicoutimi Checoutimi (2) Lake Edward La Tuque Mistrissin Roberval	47 47	39 27	71	1333	-76 $-76$ $-76$ $-129$	-10 0 - - - -	34 1 2 1 1	28 0 29 8 30 0 23 0	19 19 19–20 20	-10 0 -11 0 -17 0 -11 0 -11 0	27 27 13 13 27	23 4 30 6 56 6 27.3	1 46 2 60 2 85 1 90 2 10	=	0 70 1 20 0 60 0 80 —	6 10 6	23 25 21 25 —	1	1
The Northwestern Districts																			
Abitibi Manouan Crossing Weymontachingue	48	33	79 22		$-11 & 0 \\ -5 & 9 \\ - & - & 9$	-12 4 -	16 1	$^{20\ 0}_{20\ 0}$	18-19 19-20 —	$\begin{array}{c} -46 \ 0 \\ -57 \ 0 \\ -46 \ 0 \end{array}$	26 27 12	23 3 27 3	1 20 1 20 1 40	-0.45 -	0 50 0 60 0 50	5 3 4	23 25 27		
he North Shore				1															
Clarke City	50	10	66 25		- 2 9	_	-	23 ()	19-20	41 0	23	22 9	3 90	_	1 40	7	24		
New Brunswick—																			
Chatham Dalhousie Fredericton GrandManan Moneton Point Lepreaux St. John St. Stephen Sussey	44 46 45 45 45	4 57 47 9 4 17 11	65 2º 66 20 66 3º 66 40 64 40 66 28 66 4 67 10 65 38	164 49 50 30 70 35	8 1 3 0 7 2 18 9 10 7 15 7 13 4 10 4	$\begin{array}{r} -3 & 3 \\ -4 & 7 \\ -5 & 0 \\ -4 & 8 \\ -5 & 0 \\ +5 & 6 \\ -6 & 3 \\ -6 & 2 \\ -4 & 3 \end{array}$	37 30 40 27 14 33 39 15	$\begin{array}{c} 46 \ 0 \\ 29 \ 0 \\ 46 \ 5 \\ 49 \ 7 \\ 50 \ 0 \\ 45 \ 0 \\ 46 \ 3 \\ 47 \ 0 \\ 51 \ 0 \end{array}$	19 8 19 19 19 19 9-19 19	$\begin{array}{c} -22 & 0 \\ -22 & 0 \\ -31 & 5 \\ -9 & 0 \\ 19 & 0 \\ -8 & 0 \\ 12 & 7 \\ -30 & 5 \\ 29 & 0 \\ \end{array}$	27 23-27 27 13 26 13 13 27 27	20 2 19 6 20 1 16 1 21 4 	3 13 3 40 3 10 4 96 1 60 2 40 3 08 1 71 1 91	$\begin{array}{c} -0.45 \\ +0.28 \\ +0.13 \\ +0.22 \\ -1.01 \\ -2.34 \\ -1.46 \\ -2.39 \\ -2.64 \end{array}$	0 78 1 09 0 85 1 59 0 10 0 67 1 15 0 60 0 50	5 10 13 7 10 15 5	21 29 21 18 24 24 26 26 25	1	

# DEPARTMENT OF MARINE AND FISHERIES, CANADA:—METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1912.

\*Stations not furnished with Registering Thermometers

				-	- Heir W												
							Тгмг	THAT	RF			PRE	CIPITAT	TON	2		<u>v</u>
STATION	1 criticale	Longitude	Elevation above sea level, in fact	Mesm	Difference from average	Ar's Observations	Buhet	Date	Lowest	Date	Mern darly gverage	Amain	Difference from	Heavest fall in morth	Days with 01 of more	No of far days	No. of Auronas   No. of thurderstorms   No. of forc
Nova Scotja—	/																
Antigonish Halifax Kenty ille Partsborn', Port Hastings 'Sabbe Island, E. Pt	45 08 44 39 45 23 45 39 43 58	63 30	88 40 40 45	16 7 18 6 14 1 15 2	_5 5 _5 0	37 1 20	$\begin{array}{cccc} 67 & 0 \\ 47 & 6 \\ 47 & 0 \\ 45 & 0 \\ \end{array}$		$\begin{array}{c} -22 & 0 \\ -6 & 7 \\ -9 & 0 \\ -14 & 0 \end{array}$	28 26 27 26	28 4 16 2 14 1 12 9	5 99 3 73	+0_14	1 49 0 86	21 9	10 22	
Sydney Torro Whitehend Windsor aWolfy-the Varmouth	45 16 45 22 45 15 44 59 45 7 48 50	60 10 63 18 61 8 64 6	35 77 20 90	18 1 14 7 18 3 16 3 17 1 22 4	$ \begin{array}{r} -1 & 6 \\ -1 & 7 \\ -6 & 2 \end{array} $ $ \begin{array}{r} -4 & 5 \\ -1 & 2 \end{array} $	38 37 27 35 11 31	45 0 0 0 0 0 45 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	19-20 19 1 10 20 19	$\begin{array}{c} -12.8 \\ -25.0 \\ -10.0 \\ -13.5 \\ -7.8 \\ 2.2 \end{array}$	27 26 27 27 14	16 6 21 1 — 14 8 15 9 12 6 :	4 41	$\begin{array}{c} +0.69 \\ +0.16 \\ +0.74 \\ +0.60 \\ -1.22 \\ -1.74 \end{array}$	0 45 1 00 0 95 0 47	12 19 - 8 - 10 - 12 - 21	19 12 23 21 19 10	
P E ISLAND-																	
Charlottetown (Exp. Farm) Charlottetown (Exp. Farm) Hamilton	46 11	63 10 63 7 63 48	7.5	13 1 12 5	-5 5	36 1	$\begin{array}{cc} 43 & 0 \\ 43 & 0 \end{array}$		$^{-15}_{-14}^{10}_{5}$	27 27	15 4 16 8	2 41 3 27	-0.97	0 45 0 42	15 20	16 11	
NEW FOUNDLAND-																	
*Amour Point Burin *Cape Norman	51 28 17 0 51 38	55 52	27	21 1			H 0	20	2.0		18-4	13 10		2 40	23	8	
Fogo *Point Riche Port any Basques St. John's	49 43 50 42 47 35 47 34	54 17 57 25 59 10 52 42	35 27	14 7 8 1 17 8 21 0	-3 2	3 39	42 0 30 0 38 5 48 0	20 20 10 20	$\begin{array}{c} -3.0 \\ 12.0 \\ 2.5 \\ 1.0 \end{array}$	25-27 9 11 14	10.5 	11 59 0 50 7 48 7 40	+1 11	2 50 1 30 2 10	15 8 27 20	16 23 4 11	
BERMI DA-			,														4
Prospect	32 17	64 46	151	63 6	+11	21	74 0	2	51.8	11	10-3	6.54	+1 64	1.56	22	9	2

OT ATHANG		RA	INFAL	I.			SNOW	FALL.		REMARKS.
STATIONS.	Amount inches.	No of Days 01 or over.	No of Fair Days.	Heaviest Fall in Month	Date.	Amount in inches.	No of Days.	Heave - Fall in Month	Date	RESEARAS.
ETISH COLUMBIA—	0.09	1	26	0.09	10	3.3	4	2.6	13	
Alkalı Lake Annis (Canoc Point) —	0 60	6 2	16 21	0 35 0 37	25 26	29 0 20 3	9	h S 5 1	r-12 9	
Armstrong Beaver Lake Cognithum	4.94	15	14	1 00	4	8 0	2	4.0	1-8	
Denman's Islanu.	6.28	11	16	1.46	20	12.0	.4		12	
rerguson .	0 38 8 24 0 50	3 16	17 10	0 16 1 26 0 20	15 29	55 0 11 0 5 8	11 5	11.5	6	
Goldstream Lake Hydraule Homby Island Jordan River Jordan  Greek  Ansa Harbour Skidegate Skidegate	8 11 9.25	9	25 19	1 65	24 20	7.0	5 3 2 5	1.0	9	
Jordan River Jordan River (Bear Creek)	9.28 11.13	29 16	10	0.98 1.90	13 11	1.0	5	0 5 5 7	1-8 5	
Little Qualicum (French Creek, VI).	5 66	9	19	1.72	14	7.0	3	1.0	8	
Monte Creek	2.08	3	24	1.00	29-30	14 5 15 0	ε, 4	4 O 6 D	4-11 13	
Skidegate Shawnigan Lake	6.10	14	1.3	0.83	25	15.0	4	6.0	5	
Bardo .	n		_		16-19		2	2.5		
Bismark . Bruederheim –	R		_	_		3 5 5 6	3 2 7	3 II 4 0	25 16-26	
Bittern Lake	0.03	1	23	0.63	$\frac{15}{21}$	8 0 9 3 3 1	7	4.0	25 16	
Conjuring Creek						3.1	5	1 1	10	
Coutts										
Caldwell Dorenlee	R	_	-	-	12	22 0 10 0	9 5 9	5 S 1 H 4 G	16 16 26	
Dunstable Grassy Lake Jumping Pound	0 19	2	20	0.12	21	8.5	- 9	4 3	26	
Jumping Pound Lucombe					1					
Lacombe Loch Sloy Lynden						12.5	5	5.5	16	
						1 3 14 5	5 2 7	0.8	16 5	
Macleorl Mada (ManyBerries Ranch) Mayeroft Nateby						7.3	, 5	2.5	9	
Nateby						1 ' '			-	
Okotoks . Pekisko .						10.8	3 5	5 S 5 U	3-7-28 16	
Ponoka Priddis.						8 6	1	9 II	29	
Playle Creek	0.40	2	19	0.30	21	10.3	16	4.5	25	
Seven Persons Tilley						1 0	4	1.3	5-13	
Tilley SAKATCHEWAN— Carmichael Coulee Ehn How										
Forks Swift Current   Gull										
Cul! Lake						8.8	5	3.0	7	
Hanley Kindersley										
Hanley Kindersley Last Mountain Maple Creek Meadow Lake Willow Creek	0.06	1	21	0.06	31	8.5	G G	4 0	22 2-10	
Meadow Lake . Willow Creek				0 1.11	0.	5.5	1	3.5	10	
Minitorioni Cartwright						6.0	5		25	
						2 0	1 2	3 5 0 5 2 5	1-31	
Gretna Gretna Norquay (Swan Lake) Rapid City Rose Bank						25	3	10	25 28-29 25	
Rose Bank						1 .	1	-333		
Ontario – Deer Park	0.50	2	18	0.50	30	17.0	11	6.3	.s 8	
Dutton Emsdale Fort Frances	0.40	1	26	0.40	18	11 0 26 5 1 7	4 15	4 0 5 0	9	
Fort Frances	0 48 0 78	2 2	17	0.44	18	1 7	12	\$ 0 1 2 3 6 4 5 4 0	31 .8 26	
Grantham . Grand Valley	0.78	2	10	0.59	30	10 4 27 5 27 0 21 0	19 12 5	4.5	1-10	
Grand Valley MacCue Orangeville	0.07	1	18 25 21	0 67 0 43	19 19	21 0 25 6	5 9	11 0 16 6	9 10	
Princeton Sydenham					*.*	33 0	ς.	12.0	8	
Strathroy Watford	0 42 0 75 0 25	1	15	0.92	15	28 0	15	4 1)	S-9-14 —	
Orangeville. Princeton Svdenham Svdenham Strathroy Watford Westport Wostmisster Wooler Westger Usestey Lucerne	0 25	1 2 2 2 1 2	29 20	0 70 0 15	19 22 18 18	25 5 22 0 22 5	9 6 7	10 0 6 0	9 9-23	
Wooler	0.40	1	23 23	0.40	18	22 5	17	6 D 1 O	15 9	
QI'EBEC—	0.26	2	12	0.18	19	22 0		h. 11	1.1	
Lucerne Perkins Mills. Quinze Dam Timiskaming New Brunswick—						15 0 38 0	5 11	5.0	8-17 30	
Quinze Dam Timiskaming						38 0 15 5 18 3	5 6	5 0 5 0 5 3	14	
New Brunswick— Point Escuminue.	0.11	. 1	21	0 41	19	21.5	6	11.2	16	
Point Escurringe. Nova Scotta— Big Mushamush Lake (Ma-										
Kentville	2 19	. 2	29	2 40	23					
Kedgemakooge Lake (New Grafton)	1									
Liverpool (Indian Gardens) Wilton			_		9	12.8	5	4.8	5	
Mushannish River (Mahone	5 40 3 60 2 05	, 5 2 3	21 29 25	2 15 2 50	23	10.0	3	6.0	3	
New Germany South Alton White Rock	2 115	3	25	0.84	9	10.11	J	4 .1		

# DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF JANUARY, 1912.

a Barometer not reduced to sea level

							Рв	ESS	URE.		ndity.	rboad.	ctely			Du	ECTI	ON 01	r Wt	ND FI	ROM			Vı	MIND TOUTH C	)F
STATION	4.40	/ Aprilled	Longitude W		Levelin glave see	Mean reduced.		Highest	Lowest.	Канке.	Mean relative humidity.	n amount of	No of days completely	z	N	Ä		1.	S. II.	W.	N.W	ن	Total number of	Mean miles per hour.	Maximum velocity.	Date and direc-
BRITISH COLUMIA— Athin Barkerville Karnleops, a Naminin Fraree Rujert Triorgle bland al rampuble Vanouver Victoria	5.5 5.6 19 5.1 5.0 5.0 5.0 48	11 10 15 11 17	133 3 121 3 120 4 123 3 130 1 129 4 123 4	15 4 19 1 17 18 5 18 5 19 5	(180) 245 125 170) (80)	39.0	7 30 1 30 0 30 9 30 5 20 9 29	4 6, 31 31 3, 21	9 Is 9 Is 9 38	3 1 (5 3 1 22 3 1 22 5 0 99 1 1 47 3 1 21 6 0 99 2 1 16 5 1 16	80	8 7	11 11 14 18 26 5	5 0 1 1 3 0 53	1 0 5 0 0 12 3 <sub>1</sub> 0 6	2 0 8 2 19 5 18 22 b	2 0 19 3 25 1	3 0 5 0 4 0 0 2727	3 0	0 0 20 6 1 3 9 1 3	3 6 0	4 55 16 29 33 6 57 21	62 62 62 62 62 62 62 62 62	1 2 3 0 4 8 0 3 4 8 0 3 16 2 17 5	40 2 14 25 2 20 100 2	12 X 29 SW 40 W 41 SE 31 E 33 SE 39 SE 21 E
YUKUN— Dawson	- (4	ı	139 :	0 1	200																					
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ONT OTHER— Coelefane, Harley burg, Harley burg, Kingston London Offiswa Parry Sound Port Arrhort Port Arrhort Stomedill Toronte White River Woodstock	19 17 11 12 15 15 15 15 11 10 18 18	27 1 50 2 50 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	51 4 1 1 2 2 1 5 1 5 5 5 5 5 5 5 5 5 5 5 5 5	0 9 3 2 0 2 3 1 6 4 1 1	087 285 808 294 644 502 155 950 252	30 0 0 0 20 9 9 20 0 30 0 30 0 0 0 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 00 5 30 7 30 7 30 1 0 0 30 1 30 1 30 1 30 2 30	10 14 15 17 18 16 66 66	20 10 54 57 55 57 59 55 40 55 32 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	1 48 1 16 1 25 1 59 1 31 1 23 1 32 1 31 1 21 1 30 1 30	78	17 3/2 17	3 12 1 23 1 14	10 7 4 10 4 10 3 1 13 11 8 1	0 15 14 8 8 8 8 8 9 9 0 7 1 6	0 10 10 10 10 10 10 10 10 10 10 10 10 10	1 8 11 7 0 12 0 6 6 0 2 2 10	10210002010242	5 4 4 3 3 6 1 0 3 1 21	14 10 9 16 16 16 22 18 3 12 22 7 25	11 15 17 53 15 16 27 21 1 0 11 23	5 11 0 0 0 2 1 1 0 3 3 0 3 0 0 3 0	62 62 62 62 62 62 62 62 62 62 62 62 62 6	6 4 1 9 2 7 4 8 10 9 14 5 16 7 1 11 6	1V 30 8 12 24 9 40 14 36 8 40 14 44	9 W 15N 8 SE 9 W 8 SE 4NW 8 SE 9 N 5 W 18 S
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# DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOPOLOGICAL SERVICE.

DIRECTION OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF JANUARY, 1912

			DIR	ECTIO	N OI	- W1	SD F	ROM		
STATION										mber of 1
,	zi.	N.E.	иž	S.E.	ź	s W.	W.	N.W.	ن ن	Total number Observations
Alberta— Athabasca Landing Halkirk (Emsburg) Hillsdown Loveland Pakan (Victoria) Rinfurly (Waitefield)	0 4 1 2 5 6	0 1 5 3 2 3	3 1 0 2 5	6 9 6 8 1	1 4 2 2 8 3	6 17 10 10 15 4	9 4 2 9 4 6	6 22 23 9 11 25	0 0 13 0 11 22	31 62 62 45 62 93
SASKATCHEWAN— Chaplin Crescent Lake Estevan Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery Onion Lake Pense (Gatesgarth) Waseca	0 2 0 0 1 0 0 0 0 0 3	3 1 4 2 2 5 0 4 2 1 1	0 1 0 10 0 10 0 1 0 1 0 9	421316 46218386	0 6 2 5 9 1 8 0 0 1 2	0 3 1 16 8 23 0 27 0 27 2 3	0 12 8 0 5 2 19 0 5 4	24 4 10 32 50 25 1 23 10 15 12	0 0 3 0 4 0 0 0 0	31 31 31 60 93 62 31 62 31 31
MANITOBA— Drandon Hillview Moose Horn Bay (Arthensville) Morden Oak Bank Stony Mountain	2 0 15 7 4 9	$\frac{12}{7}$ $\frac{1}{1}$ $\frac{1}{0}$ $\frac{1}{1}$	5 4 0 1 0 2	2 2 4 3 0 2	0 1 9 2 4 10	17 3 2 10 6 10	28 41 3 12 2 13	21 65 18 21 15 13	6 0 8 5 0 0	93 93 60 62 31 60
Oxtario — Agincourt Alton Beatrice Birnam Clinton Cottam Gravenhurst Lindsav North Bruce Orillia Owen Sound Point Clark Port Dover Scarboro Junction Stoney Creek Uplands	9 6 1 1 27 11 6 16 2 16 2 4 3 11 16	11 0 0 0 2 1 2 7 3 0 2 2 7 3 1 2 2 3 1 0 0 0 2 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 11 0 5 4 7 8 6 16 0 0 2 2 2 2 9	6 4 12 3 5 4 19 13 7 2 0 1 2	1 10 14 14 14 9 3 8 9 12 7 34 14 1 0 0	34 15 5 8 9 10 10 10 8 11 14 15 11 0	6 42 2 22 23 10 12 11 19 4 0 24 5 10 23 18	24 5 20 7 9 2 5 20 6 5 1 3 3 3 2 0	2 39 2 0 0 19 16 0 0 0 0 4 0	93 93 93 62 62 62 93 93 94 31 62 31 31 93 62
Ovedec— Abitibi Anticosti, W. Pt Anticosti, Heath Point Bicquet Brome Cape Chatte. Chicoutimi	19 9 29 5 10 0	1 5 14 5 1 3 12	16 20 2 10 9 4 0	4 1 4 5 0 0 15	10 6 2 20 9 0	3 1 4 7 6 0 32	38 17 6 32 52 47 0	2 33 24 9 6 1 3	0 1 8 1 38	97: 93: 93: 93: 93: 93: 93:

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 NEW BRUNSWICK +

Nova Scotia-

Dalhousie
Pt. Lepreaux
Sussex

CA SCOTIA—
Kentville.
Parrsboro'
Port Hastings.
Truro.
Whitehead

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF JANUARY, 1912.

						Hot	rs En	ang							
STATION.	7 a m.	Sam.	e a m	TO a mi	11 a m	Noon.	1 pm	2 p m	3 p.m.	t p m.	. p m.	6 р т.	7 p m.	S p m.	
Victoria	 		69	20	26	22	2.2	22	18	ρ5					
Salmon Arm .				12	20	23	25	31	26	05					
Nanaimo				07	21	21	. 20	13	16	0.5					
Vancouver,			03	12	19	21	23	25	23	. 15	06				
Agassiz				20	33	36	37	31	.28	13					
Tranquille		69	21	24	29	42	39	31	69					١.	
Summerland			15	22	27	31	27	35	20	- (2					
Kamloops				(9)	17	29	37	33	.24	.18	T			- 1	
Edmonton			02	15	22	38	51	51	41	1.5					
Lethbridge .		01	23	39	45	53	51	53	19	39	03				
Lacombe		. 1	.12	.26	42	.50	58	56	. 53	.33	05				
Metheine Hat			03	19	27	.27	38	37	31	.09					
Fort Dunvegan 4				.03	10	30	35	45	37	06					
Fort Vermilion .			01	15	23	30	41	12	11	,					
Battleford			11	43	59	67	61	150	56	12				- 8	
Indian Head .			02	18	33	42	48	40	33	.06					
Moosejaw		#1	08	21	29	35	37	36	36	. 16					
Scott .		02	11	29	4.1	52	53	56	30	.26					
Rosthern		02	31	40	12	42	51	55	45	14					
Brandon		13	43	, 62	67	66	66	61	49	0.8					
Winnipeg			05	26	43	61	62	63	61	. 45	02				
Harleybury		04	.35	50	60	.05	65	64	63	48	07				
Woodstock		n2	14	.28	40	46	43	42	32	26	09				
Lindsay		01	11	.26	31	50	12	11	.38	31	09				
Bairie .		02	16	23	36	39	.35	12	34	11					
Toronto			es	29	38	52	46	11	12	.02	.07				
Ixingston		02	17	31	17	55	51	47	41	35	12				
Ottawa		63	21	16	50	61	63	50	50	27					
Montreid			19	. 11	50	50	18	51	48	.36	01				
Cap Rouge		02	17	23	.30	31	11	12	40	28	01				
Quebee		. 02	. 29	32	42	43	Hi	43	15	31	05				
Sherbrooke .		02	09	15	.30	38	40	46	38	28	0.5				
Uredericton		10	44	50	60	64	57	661	51	40	07				
Charlottetown .		.13	.28	42	. 45	50	45	48	52	. 50	.15	02			

	Vietoma	Salmon Arm.	Хапанто	Vancouver.	12125.	Transmille	Summerland.	Kamboops	Edmonton	Lethbrolge.	Laronnbe.	Moduine Hat.	Fort Dunvegan	Fort Vernution	Battleford.	Indian Head.	Moose Jaw	Scutt	Rosthern.	Brandon.	Winnipeg.	Harleybury	Woodstock.	Lindsay.	Barrie.	Toronto.	Kingston.	Ottawa	Montreal.	Cap Rouge.	Quebec.	Sherbrooke.	Fre-lericton.	Charlottetown.
Registered duration in hours	11	11	43	11	61	1,5	56	49	73	112	101	59	51	51	115	69	158	101	102	1.35	111	144	87	90	74	92	106	119	107	79	100	77	138	122
Percentage of pos- sible duration ".	16	17	12	1+-	2.3	25	21	18	29	42	#1	22	24	24	45	26	26	10	10	51	411	32	30	31	23	32	37	42	41	20	36	27	49	42
Difference from average ',	-1	-		1.5			_	_							+1	-1	ĺ			+11	£1:	_	+9	+5	+3	+.5	+12	+12	+7		. [		+9	
Maximum percent age in one day	83	12	67	50	70	89	81	72	85	93	87	733	64	71	92	98	85	118	96	87	89	9.5	98	86	18	80	92	45	93	92	95	91	95	99
Date of maximum	7	3	30	7	ĩ	2.5	16	25	2	19			29				6			20			- 1		25			10	13.	25	25	11	25	11
Number of days completely cloud ed	16	10	. 21	21.1	16	11	11	15	ļn	6		ţı					10			5				12		9		8				14	ç	7

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Acres recorde
 3. Sion.
 4. Sion.
 5, Sion, Prince, Bella Coola III.
 7. Grand Manan IV
 9. Sion.

    Sion, Awenae IV, Fort Qu'Appelle IV, Oliver, Hall Chury IV.
    Cartwright IV, Sion IV, Hillsdown IV, Halkirk, Walled III IV. American IV, Kakabeka Falls III, Haliburton (very bright), Prace Men. S. 7, Oliver, Quebes IV.

        Haileybury III.
12. Emstale III, Sebr iber IV. Lucknow IV, Walt, Joha Fills IV. I Courten very bright .
        Bruce Mines IV, Mistassini IV, Divide III, Glenbryay J. 200 + 1V, Halleybury III.
13. Haliburton (very bright), Chicoutimi.
14. Sion.
15. Sion.
16. Sion. Brantford IV.

    Sion, Halbirk, Weddefield III, Chagoness III, Aitkensville IV, Aware I, Kaladelie Fells IV,
Brownfill, For. Qu'Appelle IV, Muenster IV, Galvir, Wassen.

18. Sion, Oliver.
19. Sion.
20, Sion.

    Sion, Chageness IV.
    Halkirk, Aweno IV, Minnedosa III, Crescop, Labo III.

22. Chagoness IV. Ecnora IV.
M. Sion, Kakabeka Fells III, Lindsay IV.
25.3
26. Haliburton (bright).
28.
20. Waitefield IV.
"1, Sion,
     Thunder recorded:
 6
 8.
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15.
16.
17.
18.
19.
20.
21.
22. Vernon, St. Stephen, Kingston.
23.
24.
26. Port Dover, Lucknow, Georgetown, Southampton.
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# FORECASTS FOR JANUARY 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 12 6. These were divided as follows:—

	No.		VERITI	ED.	
District.	Issued.	No Fully.	No. Partly	No. Not	Per- centage.
Alberta	\$1	67	11	3	89.5
Saskatchewan	83	74	9	0	94.5
Manitoba	83	64	12	7	84 3
Luke Superior	99	81	15	3	89 4
Lower Lake Region	114	9.5	16	3	99 3
Georgian Bay	114	83	23	8	82 9
Ottawa Valley	95	75	12	5	88.4
Upper St. Lawrence	95	7.	11	6	87.9
Lower St. Lawrence	101	88	10	3	92 1
Gulf	109	93	13	3	91.3
Maritime Provinces West .	117	91	16	10	84.6
Maritime Provinces East	115	50	20	5	86.9
Total	. 1206	982	168	56	88 4

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director.

Meteorological Office, Toronto, February 26, 1912.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Meather Review

VOL. XXXVI.

FEBRUARY, 1912

No 2

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

### TEMPERATURE.

### BRITISH COLUMBIA.

On southern Vancouver Island and at the mouth of the Fraser the mean temperature of the month did not differ very much from normal, although there was a general but small positive departure. In the Kootenays, the Okanagan Valley and along the Thompson River the excess was more pronounced, ranging between 3° and 6°. Along the Upper Fraser the maximum differences from average occurred, ranging from 6° to 9°.

Temperatures below zero were reported from the Upper Fraser and the North Columbia River only. A temperature of 61° was recorded at Alberni on South Vancouver Island on the 29th, while 55 or higher occurred on the 9th and 15th in the same district. In Southeast Kootenay 53° were registered on the 20th, and at Prince Rupert 62° on the 1st. Elsewhere the temperature did not exceed 50° during the month.

### THE WESTERN PROVINCES.

At Banff the normal mean temperature of February was exceeded by less than 6°, but over the -reater part of Alberta there was a positive departure from normal which ranged from 10° to 13°.

Temperatures of 50° were recorded on the 1st, 2nd, 3rd, 13th, 15th and 16th at many places in the basins of the Red Deer and Bow Rivers. In many districts temperatures did not fall below zero until the last two days of the month, but the change to colder conditions was sadden, and severe also, as a lining of 20 to 35° below zero indicate.

In Saskatchewan and Manitoba, also, the month was much warmer than usual, the mean temperatures exceeding the normal by from 6° to 9°. For the first ten days, however, the minimum temperatures were very low, ranging as far as 38° below zero on the 8th. From the 10th to the 25th much milder conditions obtained, 40° being exceeded on the 15th, 17th at 18th in a few localities. The last two days of the month were very cold.

## ONTARIO.

Except in the District of Thunder Bay the month was colder than usual throughout the Province of Ontario. From the District of Algonia to Lake Eric the difference from average increased from less than 1° to 8° or 9°. Temperatures below zero were of frequent occurrence during the first four-teen days and in the Georgian Bay counties were very low, minima ranging between 30° and 40° below on the 9th and 10th. From the 14th to the 27th intervened the mildest period, which was terminated or, the evening of the 27th by a return to zero temperatures, with which the month ended.

### CHEBEC

From Montreal as far as Quebec City mean temperatures with 1 ± 0.2 lower than the normal, but from Quebec castwards the deviation from normal was positive, increasing to from 5° to 7° in the tell of the 8t. Lawrence. From the 9th to the 16th temperatures below zero were recorded daily, and less frequently from the 22rd to the 29th. From the 16th to the 22rd the air was warmer than the freezing point in most districts, the maximum temperatures of the month being registered about the latter date, and in but few instances exceeding 40°.

### THE MARITIME PROVINCES.

At Pallousie on Chalcur Bay the mean temperature was more than 6' higher than normal, but forther south in the same province, at Chalbam on Miramichi Bay, the difference was only 3', while in a therm New Brun-wick and in Nova Scotia, as well as in Prince Edward Island, there was very little deviation from average, stations on the Bay of Fundy showing a small excess over average temperature and the Nova Scotian stations a very small deficiency.

The highest and lowest temperatures recorded in each province during the month of February, 1912, were:

	HIGHEST.	LOWEST
British Columbia 62	at Prince Rupert on the 1st,	16° at Ft St. James on the 29th,
Alberta	at Didsbury on the 1st & 14th.	31 at Pakan on the 7th and at
1		Athabasea Landing on the 7th
		and 29th.
Siskatchewan48	at Chagoness on the 16th,	-38 at Prince (Meota) on the 8th.
Manitoba	at Ninette on the 24th,	40° at Perens River on the 2nd.
Ontagio		"4" at White River on the 10th.
Opplace 15"	at Chicontinui on the 23rd.	38° at Manouan Dam on the 11th.
Now Brunswick	at Grand Manan on the 22nd.	29.5° at St. Stephen on the 10th.
Nova Scotia	at Pt. Hastings on the 20th and	1 27.8 at Truro en the 12th.
	28th,	
P. F. Island 12.5	at Charlottetown on the 22nd.	16° at Charlottetown on the 11th.

### PRECIPITATION.

# PRITISH COLUMBIA.

Throughout British Columbia the amount of precipitation was less than average, except for local cases in Central Vancouver Island and at Agassiz on the Lower Fraser River. This last instance was remarkable in that twice the average precipitation was recorded at Agassiz, while all other gauges in the Lower Fraser showed a deficiency of about 1 inch. The snowfall on the Upper Fraser was very carry, and was in most instances less than 7 inches.

# THE WESTERN PROVINCES.

In many districts there was only a flurry of snow during the month, while in the majority of the other portions of the Western Provinces the fall was large enough to measure on three days only.

# ONTARIO.

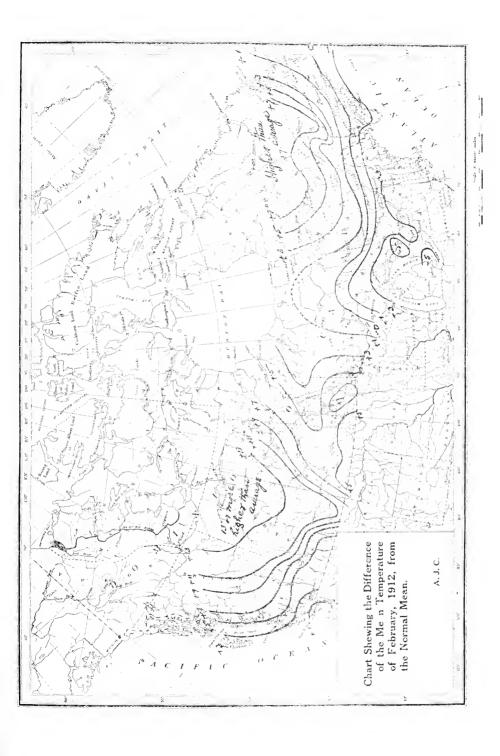
Along the Upper St. Lawrence and the Upper Ottawa the usual amount of precipitation was vore nearly recorded, while over the remainder of Outario the deficiency was general and pronounced.

### OUEBEC.

At Montreal, in southwestern counties, and at Father Point there was a small excess, but over the remaining districts of the province there was a deficiency which in most cases was equivalent to 20 per cent, of the normal amount.

# THE MARITIME PROVINCES.

The deficiency in Northern New Brunswick was very small, but elsewhere in the Maritime Provinces from 30 to 50 per cent, less than the normal was recorded



### ATMOSPHERIC PRESSURE.

Mean values of atmospheric pressure were higher than average in British Columbia, and locally, only, in Saskatshowen. Elsewhere in the Dominion they were lawer. Mean pressures in the Maritime Provinces were in most instances less than normal by about twenty hundredths of an inch, and in Ontario and Quebec by from five to eighteen hundredths. In British Columbia the excess ranged between three hundredths and one-tenth of an inch.

### HIGH AREAS.

Seven areas of high pressure were charted. One first appeared in the Yukon Territory; three to the neithward of Manitoba and three in the North Pacific States. One area ultimately passed off our Atlantic coast, thence over Newfoundland; one off the Middle Atlantic Phitod States coast; one off the South Atlantic coast; two into the Gulf of Mixico, while the remaining two broke up before reaching the Atlantic coaboard. The systems were not, as a rule, very energetic, but for the most part they were attended by much cold weather.

### LOW AREAS.

Fleven areas of low pressure were charted. Two first appeared on the Alaskan coast, three on the coast of Northern Butish Columbia, one in the We tern States, four in the Southwestern States, and one to the northward of Lake Superior. Five of the areas passed over the Great Lakes, one to the northward and five to the southward of the Great Lakes, the new over Eastern Canada and Newfoundland. A few of the systems displayed great energy, attended both by heavy precipitation and heavy cales. The larger number were, however, of moder to energy only.

## DEPTH OF SNOW ON THE GROUND.

The snaw had disappeared from the coast and the lewer mainland of British Columbia at the close of the month, while on the high levels the depth was in anot places less than at the same time last year. The average depth in the Western Provinces was five inches, but in Northerstern Saskatchewan end in the District of Krewatin it ranged from fourteen to twenty-four. In Northern Ontario, the Ottawa Valley and Musloka there were from twenty to thirty six inches of snow upon the ground, but in the remainder of the province from six to ten in the s.—In Quebec the depth varied from twenty-six inches at Montreal to sixty inches in Gaspé county. In Cape Breten 13 and and Prince Edward Island a depth of twenty-four to thirty inches was registered, but in the remainder of Nova Scotia and in Southern New Brunswick, from four to cight inches only.—In Northern New Brunswick the depth varied from three to four feet.

# TIHCKNESS OF ICE.

At the elect of the month the thickness of ice was reported as follows:

WISTERN Provincia: Battleford, 27 inches: Swift Current, 38; Mosse Jaw, 32; Qu'Appelle, 26; Minnedosa, 24.

KLIWATIN. The Pas, 25 inches.

ONEMBO. Port Arthur, 10 inches; Cochrane, 28; Port Stanley, 30; Kingston, 23; Otlawa, 32; Gravenhurst, 12; Georgetown, 11; MacCue, 20; Port Dover, 28; Bruce Mines, 19.

MARTIME PROVINCES. Chatham, 19.5 inches; Yarmouth, 44; Sydney, 46; CharloHetown, 20; Fredericton, 28.

21

# WINDS, FEBRUARY, 1012

PROVINCES AND STATIO	V×	Total Mileage	Greati 1 Milenge in 24 hours	Greatest Mileage in one hour.	Number of Cale	Number (Ldays) (c. trong Wards	Number of days of Fresh Winds	General Pirecion
British Columbia								
Victoria Point Garry		5449 5355	457 566	27 51	0 3	19	7 15	N & L
Edmonton Calgary		3418 3370	261 262	18 25	0.0	1	4 3	SW . & W
SASKALD WYS.								
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Maritime Province								
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# DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, FEBRUARY, 1912.

\*Stations not farmshed with Registering Thermotacters

			,	Station-					Гемри				11	Pr	E(11)	ITATIO	ν.	į			gi	
STATIO"	Latter le N		Longitude W	Elevation above sert   level, if fort 	Mean	The second	1.00	11 - 05 - 11 - 12	High st	The	Lowe-t	. 61	The contraction	Amount		Difference from	Howard til in	Ë	No of fair days	No. of auroras	No. of thunderstorms.	No of fogs.
Built if Contrast																						
S. Famourier Fluid  Alberta (Boere) Coech, Claveguel Cowellant Lamb dem Lame Solt Spring Fluid Solt Victor	15 19 49	7 15 11 25 05 10 50 11 21	121 40 125 17 126 12 123 4 123 3 123 20 123 14 125 19	300 40 170 125 25 85	al 4 41 8 40 9 40 5 40 5 41 5 41 0		14	11 3	61 0 51 5 51 5 56 6 51 2 53 6 57 0 50 9	29 15 15 15 15 17 17 19	21 0 a1 0 22 5 25 0 26 0 26 0 27 0 28 5	1 0 91 91 91 91 91 91 91 91 91 91 91 91 91	11 3 11 3	9 7 17 W 4 3 3 8 3 8 1 1 5 2 3 1	1 -	+ 0 95 + 4 61 -0 63 -1 60 -1 -0 13	1 76 3 51 6 87 6 60 6 94 6 83 6 92 6 62	16 19 18 11 14 17 12 17	13 10 11 18 15 12 17 12		1	5 2
A. Cancany of I land Holbory Swanson Pas Transle Island Water Harborn (Qual race)	59 50 50 50	57 57 32	125 48 126 53 129 5 127 40	bəll	11 - 1 15 3 41 +		_ 	10	17 N 55 T 59 O	7 15 24	21 ° 25 0 28 0	25 25	" 1	15.4 19.3 8.4		_ _1 82	2 36 2 78 1 00	20 20 18	9 9			
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Upper Fra er Letter Faboue I dee Brikevralbe Chileotin Bog Crick) Fort St. Lames estbatts Tasket Gørenille	55   53   51   54   52	25	1	1150 3190 2250 1700	25 1 23 7 20 9 28 5		5 6 - 7 5 7		12 0 16 0 51 0 48 0	14 11 15 17	5 0 5 0 16 0 - 18 0		158	1 0	20	-1 30 -1 7 -0 50	0 10	3	20			2
Okamajan Talley Lutruew Helley Helley (Nieled Plate) Okamajan Mr. suntKelowin Prancton Sunner Und Verma (Coldstream Ranch)	19 19 19	35 37 29 57	120 10 119 29 119 35 120 29	1206 1650 1100	35 1 31 7 22 5 35 0 27 6 31 0 28 0	1	- - 7 1 3 7	17 5	48 0 42 0 46 0 49 5 46 0 45 0	15-16 S-21 5-19 16-15 15-16 11-10	18 0 10 0 2 0 3 0 43 3 — 5 0 10 0		n 12 5 n 10 2 n 15 0 n 15 0 n 12 2 n 10 7 n 12 1 ts 12 8	3 2 1 0 0	08 16 25 55 76 78 86 92	+0 4 -0 2 -0 2	0 21 6 0 15 0 35	9 10 10 9 9 5	19 20 20 24			3 5
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Fa t Kontenay								1														
Fe-well Cembrook Laboreo Plant - Pikot Walmer	# # # 56	38	115 50 1 115 3	) 5 26+1	29 30 21			1.	54 1 54 1 7 12 0	15 20 12	3 (	1	20   17   20   16   28   10	1	20 17 13		6 20 8 0 19 0 00	11. 7	1 28 3 29 3 29	S   :		i
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North Colombia Breez Collor Charte Level toke	5	1	1 117 2	3 2550 9 1072 6 1176	90 27 31	8		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 - 45 0 1 - 34 0 2 - 16 0	0_17 19	- 3 (		29 (9 29 9 21 11	7 7 3	45 80 32	+0 3	H 2 IS 0 S 36 Ø 6	0   1:	3   2   1   1   1   1   1   1   1   1   1	н.		

# DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METLOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE POMINION OF CANADA, FEBRUARY, EQ.

28' itams not furn hed with Registering Therm motor

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STATION	Email >	True total M	Elevation please ser	, j		Distribution	7		7				Property of	The court dist	1 sewahittorin	No offerdos	Ne diameter	No of Humberton	100
BRITISH COLUMBIA-CON.																			
North Coast  Bella Coola  Prince Rupert  Stewart	52 40 54 18 56 1	126-54 130-18 130-4	170 170 215	37 2 11 6 31 1	· <u>7</u> 1	10	4× 0 62 0 1+ 0	7-21	27.6			1 % 5 \$ . 0 5 . 00	-1-9	9 39 1 19 9 90	12	17 17			
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Yukon- Carcross Diagon White Horse	60 1r (4 4	134 31 171 21	2171 1207	15.5		5					1- 1	e et			4		2		1
Alberta— N. Saskalchewan River																			
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Wetaskiwin  The Rel Deep River	12 12	113 25	24.0																
Alix Delix Didsbury Eskville Hermattan Hilfsdown Licomite Red Deer Threehills Creek	52 24 51 38 51 40 52 23 51 45 52 11 52 58 52 16 51 30	H12 25 H14 8 H14 22 H14 23 H15 20 H13 44 H13 47	359 ( 259 ) 2 06 2 8 ( 2806 -	20 1 28 7 21 7 21 6 19 1	_	10 59 5	\$1.0 \$1.0 \$1.0 \$1.5 \$1.5 \$1.5	17	-0.0 -4.0 -4.0 -9.0 -3.5	24 1 21 20 24	27 T 20 T 20 T 11 T	0 42 0 40 0 12 0 35 0 10		0 10 0 10 0 0, 0 15 0 04	51 4 m	25	2		3  .5
The Bow River																			
Caleary Card-Mon Furman (Playle Creek) Gleechen Lawrence (Harkland) Lettbirde Lethbirde Lethbirde Lethbirde Lethbirde Madewil Moderne (Lit Tincher Creek Suchul	51	113 18 112 54 113 53 113 53 113 53 112 51 112 51 113 54 110 57	2052 3304 2961 2128 2161 3750	26 4 25 1 23 1 23 1 25 7 25 8 27 9 27 9	12 ) - - - - - - - - - - - - - - - - - - -	20 L SS 115 125 1	43.5 47.0 15.0 50.2	2 11 22 11 3 11 3 11 22	- 7 0 - bi 0 - 12 : - 19 0 - 18 5 - 23 : - 17 0 - 15 0 - 10	20 27 27 27 27 27	18 7 21 1 27 2 18 0 18 2 17 2	0.05 0.15 0.35 0.40 0.17 0.15	+0.47 - - 		, 1	20 20 20 20 20 20 20 20 20 20 20 20 20 2			1 7 2
Rocky Mountains  Bauff Blarmore	51 10		4512	21.1	< 5.5	- 15	- 15 · 1	10	21 I			9 9 9 H	2.11						
	4) 4)	114-30	4225	21.0			17	10				-7 11							
Athabasca River Athabasca Landing Lunnford Pembina	51 4   54 3   54 4	1 110 17 114 19 2 114 0	H:50	15 9 19 6				11	-2°			0 26 1		0 10 T					
Peuce River																			
Dunvegan Fort Vermilion Peace River Clossing Spirit River	55 5 55 7 56 15 15 10	188 35 118 3 5 117 15 0 118 47	1305	9.5		P	11.0					0.37		0.1				1	ì

# DEPARTMENT OF MARINE AND FISHERIES, CANADA: - METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, FEBRUARY, 1912.

							Темре	RATURE	:			Prec	IPITATIO	N,	тиете.			on.
SPATION	Lantade N.	Longitude W.	Elevation above sea level, in feet.	Mean	Difference from average.	Vr's observations	Inghest.	Date.	Lowest.	Date.	Mean daily range.	Amount,	Difference from average.	. Heaviest fall in month.	Days with 01 or m	No. of fair days.	No of Auroras.	No. of thunderstorms
SASKATCHEWAN-																		
m'. I ppelle River Brownhall (Grenfell) Brownhae Crescent Luke Lstevin Hubbord Drummene) Humboble Impered Humboble Impered Monor Monor Monor Monor Menor Lead Monor Menor Menor Hubbord Hubbor	50 235 50 45 50 50 50 51 51 52 51 51 52 52 50 24 50 21 50 22 50 20 50 21 50 21 50 21 50 21 50 21 50 21 50 21 50 37 50 21 50 21 50 37 50 21 50 21	106 0 103 25 103 3 103 3 105 9 105 9 105 23 102 2 105 35 103 40 104 37 105 9 107 37 108 3 109 3 109 3 109 4 104 4 104 14 104 14 104 14 104 14 104 14 104 14 104 14	1957 1658 1858 1924 2004 1759 1884 1870 1879 2115 1600 1885	\$ 1 4 2 2 3 7 1 5 6 8 2 3 3 3 3 4 7 7 7 2 7 4 8 9	+ 7 0 + 7 5 + 3 7 + 7 7 + 5 1 + 6 4 + 8 7	12 14 8 3 4 1 12 22 17 10 7 11 27 12 12 12 14 15 16 16 17 17 17 17 17 17 17 17 17 17 17 17 17	31 0 33 0 30 0 30 0 28 0 35 0 37 0 31 0 37 0 37 0 31 0 37 0 31 0 37 0 31 0 37 0	15 16 11 17 16 21 15 15 15 15 15 15 15 15 15 15 15 15 15	-30 0 -26 8 -24 0 -27 0 -36 0 -30 0 -30 0 -26 0 -24 0 -27 0 -30 0 -27 0 -30 0 -27 0 -30 0	4 9 29 3-9 9-11 9 3 3 -8 9 29 3 3 3 3 -4 29	21 4 23 3 16 6 26 0 29 2 20 1 21 0 15 6 22 6 22 6 22 6 22 6 22 6 22 6 22 6 2	0 30 0 30 8 0 40 0 15 0 17 0 30 0 17 0 40 0 11 0 27 0 46 0 47 0 11	-0.02	0 20 0 22 8 0 20 0 12 0 10 0 10 0 0 11 0 10 0 0 35 0 05	2 5022 4 3 1 5 5 4 2 2 4	27 24 29 27 27 25 26 28 24 25 27 27 25 26 28 27 27 25 26 27 27 27 27 27 27 27 27 27 27 27 27 27	1	
8. Saskatchewan River																	1	
Chaplin Last End Kelvinhurst Larelimount (Glenlervan) Maple Creek (Dreide) Ohvor Rathmallen Switt Current.	50 26 49 33 49 2 49 56 49 57 51 40 51 20 50 26	1 109 29 4 107 27 5 109 28 6 108 10 1 108 57	2202 3500 2439	7 4 15 7 10 1 16 1 6 7 10 0 13 9	+ 5 2	26 2 3 2 2 26	34 0 11 0 37 7 38 8 32 0 30 0 36 0	14 14-17 15 17 15-16 24 14-15	-33 0 -22 0 -28 0 -23 6 -33 0 -35 0 -22 0	1-0 29 × 5 29	23 1 15 4 21 8 23 9	0 07 0 10 0 47 0 50 0 15 0 12		0 02 0 05 0 15 0 20 0 05 0 12	3 8 4 8	26	3 5	1
N. Saskatchewan River	52 4	1 108 20	1620	9.6	+ 9.0	21				3								
Battleford Lloydramster Lusseland Omon Lake Prince (Meota) Scott (Ex. Farm) Wassen	52 4 53 1 52 3 53 50 51 0 51 50 53 6	\$ 110 0 5 109 34 2 109 59 1 108 20 1 109 30	1700	7 2 5 7 5 1 6 3 9 3	- 10	1 5 6 1 5	37 0 34 8 41 0 38 0 36 5 34 0	15-16 14 17 15 15 15-17	-28 0 -37 0 -35 0 -38 0 -33 1 -31 0	8-29 8-29 8 29	20 1 28 0	0 01 0 30 0 20 0 08 0 23		0 01 0 20 0 20 0 05 0 05	1 2 1 2 6	28 27 28 27 23	3	
The Saskatchewan Forks																		
Chagoness Duck Like Melfort Prince Albert Rosthern Saskatoon	52 3, 52 5 52 4 53 10 52 40 52 13	1 106 20 7 104 30 7 106 0 1 106 20	1432 1657 1571	6 4 4 6 6 7 5 5 7 2	+ 7 1 + 7 8	3 27 2 12	45 0 49 0 41 0 39 3 34 0	15 15 16 16	-31 0 -25 5 -31 0 -27 8 -32 0	3 4 3 4	20 7 19 3 20 7 21 4 21 7	0 55 0 40 0 10 0 20 8	-0.63 -0.42	0 20 0 10 0 10 0 20 8	3 1 1 0	25 26 28 28 29		
Lower Saskatchewan River   Lost River				2.5		1	38.0	16	25 0	3	15.9		_	_	_	_		
Cumberland House	53 59	5 102 16																
Mastrona— Qu' Appette and Assiai- boine Rivers		-			ı													
Aweme (St. Albans) Brandon Carberry Carman	19 40 19 51 49 54 49 31	99 37	1180 1176 1258 872	7 6 5 0	+ 5 9 + 5 7	24	B 5	16 15	-27 0 -30 2	29	21 9 19 2	0 29 0 30	-0 52 -0 56	0 07	10	19 26	3	
Cypross Raver H llyrow Munnedora Ninette Ninga Pierson Pinestone Portage la Pragrie	19 33 49 53 50 15 49 24 19 14 49 11 49 31 19 57	1 99 3 100 33 1 99 50 1 99 38 1 99 51 101 5 109 58	1232 1400 1699 1362 1649 1531 1400 830	5 8 6 8 12 0 —	+ 5 1 + 6 2 - + 4 2	26 28 1 2	34 0 34 0 50 0 56 7	15 16 24 16	-21 0 -27 6 -21 0 -20 0 -21 0	3-+ 9- 4-9- 20	16 1 18 7 24 3 —	0 25 0 46 0 15 0 50	-0.62 -0.11 	0 20 0 11 0 15 0 27 	1 3	27 22 28 26		
Portage Li Prairie (2) Freheine Virden	1) 36 1) 36 19 51	98 40 98 40 103 55	1212 1444	7.5	+ 7 9	17	37 0	16	21 0	4	18 6	0 32	-0 56	e 10	8	21		
The Red Rever																		
Almasipia Mordon Oak Bunk Stony Wountain Winnipog	49 14 49 11 19 57 50 40 19 53	$\begin{array}{ccc} 98 & 20 \\ 98 & 6 \\ 96 & 42 \\ 97 & 14 \\ 97 & 7 \end{array}$	978 800 803 760	7 9 8 4 3 9 2 5 6 5	+11 8  +6 2  +7 5	10 15 31 38	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		-28 0 -21 0 -29 7 -28 0 -25 6	9 9 9	19 7 18 8 15 9 22 5 18 4	0 20 0 85 0 05 0 05 0 18	-2 41 -0 82 -0 51	0 01 0 30 0 05 0 05 0 12	2 4 1 1 3	27 25 28 28 26		

# DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT (1741-05) IN TIG. 163A(NION OF CANADA, FEBRUARY, 1911

\*Stations on trinshed with Registering Teatmonneters.

								LEMIE	RATE BE				Pia	HELAT	.0%					
STATION			Learning W.	Provirtion choice sea		musj amar di T	Vischermannin	g - 1 4 57 , pr	Teach			1,21	As a mit	The feet of Both	Dear est fall an	Pays with 44 or more	No official v	S. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Supplementary of the second	No office.
Manitoba-Continued																				
Dauphin Lake and River		,	. ,																	
Dauphin Moose Horn Bay (Arthor- ville) Beteas Rivet	51 51 52	5 15 1-	15 1 2 103 23 17 23	7.0	$-\frac{2}{4} \stackrel{0}{:}$		2 0	4 0 2 0 2 0	1° 17	-: =:::		1 6	0 2 0 4 1		8 10 1	-	3	5		2
Lake Winnipepesi:																				
Swan River Le Pas	52 53	45	101 15 101 15	1112	-3.5	_	2	35 0 14 0	17	-177		1	0.31		0 (4	- 1	21			
ONTOPIO- The Lake Superior Districts	l i																			
Rainy River Keana	4.6	ţ.	-4 32	1162	U s	-2.9	11	29	14	-211		1.1	_	_		1				
Thunder Bag Kakabeka Falls Port Arthur Schrolber	45	- 1 - 1 - 1	5   2   5   1   5   15	-12	3.3	.! 1	4 ,1	3.0	15-18 15-18			2.0	0 ×5 1 , 0 40	;	3 P 1 2 2		11	1 1		~
Algoria Brace Mines	16	18	83 55 80 59	5 +5	10-1	-; 5	14	44.0	24	-12 0	fii		91.148	1.35	j. 1)	7	0			
Copper Chit Porcupine Providence Bay White River .	10	29 40 35	50 59 51 18 52 14 85 16	1252	10 0 1 0	1 2	.1 .21	17 0 14 0	19 24 15		10 10 10		1 29 5 90		0 10 0 10	3	20 20 20			1
Nipissing Cochrane Hadeybury Montreal River	49 47 47	200	\$1 -0 79-39 79-23	046 6×7	3 2 3	+0 3	17 17 2	13 5 31 0 42 0	15	-115	10 10		0 S1 2 12 2 1	0 1.	0 20 0 10 1 4 0	4 15 7	_3 11 2			
Upper Ottawa River																				
Lake Talon (Ratherglen) Stoneclift Rocklifte:	45	15	75 48 75 6	577	5 h 7 4	_; ;	17	-, -1	1:	$\begin{array}{c} -2.5 \\ -2.7 \end{array}$	10 11	17.4	1.75	0 1d 1 56	0.70		10 17	1		
Upper St Lawrence and Lower Ottawa																				
Kingston Montague North Gower Ottawa Renirew.	14 14 15 15 15	13	76 27 15 57 75 42 75 42 75 34	2×5 '	11: 1 11: 1 11: 5 10: 3	-: : -: 0	12 23	5.5 5.0 50.1	17-1-	=24 ? =2 0 = 1 0	11	27	1 45 1 50 2 65	10.11	1 1	:::	17		1	,
Georgian Bay Counties																				
Barrie Beatrice Coldwater Collingwood Gravenhurt Huntsville Mulland	## ## ## ## ##	2. Kill 54 Hill 11	79 11 79 21 79 10 80 2 79 20 79 8 79 53 79 24 80 55	\$39 800 600	10 9 11 1 13 5 9 7 10 4	_	1	12 0 45 0 41 0 11 0 57 0	18 19 20 10 10	- 41 b - 41 b - 31 1	10 10 10 11 11	1: 1 25 1 1: 1	2 55 1 55 2 45 2 25 2 5	-0.53 2.71 -0.05	11 5 1	1 7 11 5 11	15			i
Orillia Parry Sound Parry Sound Ronville Shelburne Uplands	11 11 15 15 14 15	41 11 15 15	79 24 80 55 80 11 75 57 90 47 79 25	750 776 5-67 6/5 Buls	H 1 H 1 12 0 N 5		20 32 36 4 3 36 26	40 0 40 0 41 0 45 0 41 0	1) 1) 1) 1) 1) 1)	-41 0 -41 0 -11 1	10		1 70 2 60 1 10 2 56 2 00	- 1 11 - 1 15  - 1 - 5	0 10 0 10 0 40 1 - 0 0 60	1:	.6 .5 .9			
Lake Huron Gounties																				
Birnam Clinton "North Bruce Point Clark Sarnia Southampton	43 43 44 44 44 44	32 21 5 5 30	\$1 55 \$1 37 \$1 25 \$1 44 \$2 24 \$1 21	595 586 586	14 ± 11 5 15 4 15 5 15 0	-51 -45 -42	24 24 15	40 4 47 0 12 0 48 0	15 15	-24 ( 25 0 2 0 -21 0 -34 1	1 11 10 10 10 10	11.1	2 35 1 59 2 19 0 80 3 73	0 71 0 31 1 48 0 70	0.57 0.42 0.40 0.55	17 17 3 30	21 10 12		ı	1
Lakes St. Clair & Erie, Niagara Peninsula																				
Chatham Cottam Grimsby Peles Island Port Purwell Port Dover Port Stanley St. Catharines	12 13 14 12 12 13 14 14 14 14 14 14 14 14 14 14 14 14 14	23 7 13 50 50 40 13	\$2 12 \$2 45 71 36 \$2 05 \$0 55 \$0 13 \$1 12 79 45 \$2 24 79 17	5 5 505 585 582 685 572 347 252	17 × 14 6 18 8 16 2 17 8 16 3 16 3 16 3 16 3 16 3 16 3 16 3 16	-54	1	45 0 42 0 14 1 41 0 41 0 41 0 41 0 41 0	18 18-24 25 25 18 24 25 18-25	-18 + 25 + 15 + 1 + 1 + 5 + 10 0 + 10 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 11 2 15 2 18 6	2 10 2 10 1 2 1 2 2 1 2 2 1 1 2 1	0 47 1 7) 0 19 0 1s	0.1	5 10 15 11	24 14 15 25			
Stoney Creek Walluceburg Welland Windsor	4:	11 15 50 20	79 45 52 24 79 17 53 4	377 625	20 1 15 1 14 1 15 2	-11	. 15 . 15 . 16	43 0 14 0 142 0 42 0	25 15 14 1 25	-1, 0 -12 0 -12 0	1	1 1 1 1 1 1 1 1 1	1 2- 2 10 1 65 1 55	131	1.144	11	15			

# DEPARTMENT OF MARINE AND FISHERIES, CANADA: - METEO DOLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIOAS IN THE DOMINION OF CANADA, FEBRUARY, 1912

\* Stations not furnished with Registering Thermometers

									Тгмі	TRAIC	1:12			PRI	lett vtb	/N	ore.	!		is.	
STATION	> 1		N. orbitalis W		Elevation shove sea havelinfect	Mean	Inth rence from	Yr's Observations	Higher	Dave	Lowest	I North	Mendal' range	Amount	Difference from Average.	Heavest full in no sith.	Days with 61 or more	No. of farr days	No. of auroras	No. of thunderstorms.	No. of fogs.
Ontario-Continued-																					
West-Central Counties		,		,																	
Alton Brantford Gnelph London Parrs Stratford Woodstock	13 13 13 13 13 13 13 13	51 10 33 53 12 23 8	222222	5 21 16 13 25 0 17	1250 750 1050 808 840 1191 950	10 2 15 7 15 6 15 5 17 6 15 0	- 1 S - 1 S - 1 2 - 4 4	\$3555 \$	42 0 42 0 39 0 44 5 42 0 39 9	19 19 18 19 18 19	73 - 7 16 0 - 24 6 20 0 17 0 15 0	16 9 10 10 10	20 3 15 1 11 6 17 9 16 2 15 8	1 77 0 70 0 80 2 22 2 91 0 37	+0 15 -1 12 -1 55 +0 41 -! 89	6 50 0 70 0 50 0 60 1 40 0 18	10 1 3 1 8 6	28 26 21 23 24			2
Lake Onlario Counties																					
Agricourt Autorr Handfon Forme Park Scartoor let Torout : Torout   SaLukeside Home   Untridge	13	17 57 16 52 49 49 5	29 P 20 P	16 24 54 57 13 24 54 54	5-0 886 363 515 350 886	15 1 13 9 18 1 17 5 14 1 19 0 19 0 13 1	- 0 7 - 5 9 - 2 1	17 4 3, 4 3 72 7 8	38 9 40 0 13 0 47 0 45 6 43 0 34 0	24 19 19 20 17 25 25 15 19	$\begin{array}{c} -24.0 \\ -25.0 \\ -111.0 \\ -18.0 \\ -26.0 \\ -18.8 \\ -10.0 \\ -26.0 \end{array}$	10 10 10 10 10 10 10	13 6 17 1 12 1 15 0 18 5 14 2 13 7 14 2	1 15 1 37 — 0 90 1 66 — 2 17	-1 78 -0 62 - - -0 66	0 10 0 75 	13 7 - 1 13 - 14	16 22 			2
East-Central Counties																					
Banetoft Halblarton Kunnoant Lakeheld Landsay Markoe Petribotof Usa	15 11 11 11 11 11 11 11 11 11 11 11 11 1	1 45 25 20 70 17 54	STATISTICS.	50 28 38 15 45 29 17 18	1050 920 859 872 575 722	9 8 10 4 15 6 13 1 11 8 13 3 4 9	$\begin{array}{c} -\frac{1}{3} \stackrel{7}{5} \\ -\frac{3}{3} \stackrel{7}{5} \\ -\frac{3}{3} \stackrel{2}{2} \\ -\frac{3}{3} \stackrel{6}{6} \end{array}$	21 25 25 25 25 47 6	13 0 13 0 41 0 39 1 37 0 37 0 26 0	19 18 25 18 15 15-24 13-21	$\begin{array}{c} -35.0 \\ -40.0 \\ -28.0 \\ -29.4 \\ -27.0 \\ -30.0 \\ -32.0 \end{array}$	10 10 10 10 10 10 10 6-10	25 7 24 5 16 3 17 9 18 8	2 25 1 96 2 67 2 60	-0 67 +0.07	0 98 0 10 1 10 0 60	- 13 10 7 11	16 19 22 18			1
QUEBEC— Middle St. Lawrence																	1				
Brome Cup Rouge D'Unch Montreal Perkin's Mills Quebec, Ste Anna de Bellevine Shewringari Laifs Sherbrooke.	15   15   15   15   15   15   15   15	10 46 5 5 5 5 K 5 5 5 5 5 5 5 5 5 5 5 5 5 5	77.73.73.73.72.72.72.72.72.72.72.72.72.72.72.72.72.	35 18 21 35 38 13 59 43 5	678 896 187 296	11 1 9 0 9 9 13 5 12 0 11 7 4 2 10 8	- 2 3 - 1 1 + 0 3 	32 1 2 37 37 37 6 7 9	42 0 35 0 36 0 36 0 35 0 35 3 37 3 38 0 39 5	22 21 22-23 20 21 19 20 22	$\begin{array}{c} -22 & 0 \\ -49 & 3 \\ -25 & 0 \\ -18 & 4 \\ -49 & 5 \\ -30 & 0 \\ -17 & 4 \end{array}$	10-11 11 10 10 10 10 11 11 12	49 1 16 2 17 7 43 1 11 4 11 9 21 2 21 2	1 90 2 15 3 10 3 80 2 19 3 95 2 14	+0 57 -0 87	1 20 0 60 1 20 1 00 0 76 0 76 1 20 0 93	16 6 16 11 10	25 13 23 13 18 19 15	2		3
Lower St. Lawrence & Gulf																					
Vatic iste, E. Pt Anticosti, S.W. Pt Anticosti, W. Pt Bucquet Cup: Chatte Cup: Chatte Cup: Max Filon Eather Point	11 48 19 18	52 25 6 46 31	64 65 65 65	42 53 15 26 19	30 30 94 20	19 3 19 1 17 2 17 3 17 6 15 9	+ 7 6 + 7 8 + 3 0 + 17 + 4 8	2) 31 23 23 24 24	32 0 33 0 33 0 40 0 38 0 38 X	5 22 20 21 22 21	- 6 0 - 7 0 - 6 0 -10 0 -13 0	11 11 10 10		1 02 1 75 3 15 0 80 1 63 2 68		0 46 0 30 1 20 0 30 1 20 1 20 1 0 62	4 11 9 4 6	25 18 20 25 23 15			2
Lake St John																					
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The Northwestern Districts																					
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The North Shore																					
Clarks City	5()	10	56	25																	
New Browswick -																					
Chatham Dalhouse Frederich in Grand Maion Month Point Lepreary Stolin St Stephen Sussey	17 18 15 14 16 15 15 16	1 57 17 17 11 11 38	65 66 66 64 66 66 67 67	29 22 36 46 15 28 46 16 28 46 16 28	21 31 161 19 50 30 70 35 10	17 3 17 1 15 6 24 1 16 9 22 7 20 1 15 9 16 7	+ 3 0 + 6 6 + 0 5 + 0 1 + 0 1 + 0 7 + 0 6	12 15 17 15 14 15 15	15 5 40 0 45 2 18 7 12 0 38 0 43.7 48 0	93 93 93 93 93 93 93 93	$\begin{array}{c} -21 \ 5 \\ -15 \ 6 \\ -25 \ 6 \\ -7 \ 6 \\ -7 \ 6 \\ -7 \ 6 \\ -12 \ 6 \\ -29 \ 5 \\ -21 \ 0 \end{array}$	11 10 10 11 10 11 10	20 6 17 0 21 1 14 6 20 2 	2 74 2 50 2 60 1 77 1 25 2 94 1 97 1 70 3 76	-0 05 -0 33 -1 35 -2 26 -1 53 -1 10 -1 30 -1 21 +0 04	0 52 1 80 1 30 0 50 0 55 1 31 0 52 1 30 1 16	13 2 10 9 5 7 12 4 6	16 27 19 20 21 22 17 25 23		1	2

# DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOGOLOGICAL SERVICE.

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, FEBRUARY, 1917

\*Stations not jurnished with Renstering Thermometers

		3		TEMPERATURI		PELCIPITATION	- Di
STATION	Lantage Longitude	Devation above sea level, in Rect	Difference frem avetage	Hainet Date	Poss Montral verse	Annear Difference from absisses	5 , }
Nova Scotta-	. ,						
Aatigonish Hahiax Kentville Partsboro'. Port Hastings Sable Island, E. Pt	45 08 61 59 45 09 63 36 45 23 64 19 45 09 61 22 43 58 59 46	88 22 40 19 40 21	1 - 0.8	1 46 0 22 -13	6 11 11 7	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
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Togo Point Riche	49 43 54 17 50 42 57 25	30 21	s –	3 34 0 23 - 4	0 16 10 6	8 50 - 3 9	0 23 7 2
Port aux Busques St John's	47 35 59 10 17 34 52 42	27 19	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{bmatrix} 4 & 35 & 0 & 5 & 6 & -8 \\ 39 & 38 & 0 & 21 & 2 \end{bmatrix}$	5 11 10 6 0 16 17 10 7	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 19 10 0 16 13 2
BERNUDA-							
Prospect	32 17 64 46	151 61	0 - 0.7	21 71 8 27 49	2 15 10 4	3 66 1 13 1 2	2 18 11

PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER,  $4\times$ , DURING FEBRUARY, 1912.

		13	UNTAI	l.			SNO	ALAPP.	RLMARKS	
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South Allon White Rock		1	1	15 0	74	22   1	0 0 -	6 21	0	17 17

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF FEBRUARY, 1912.

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QUEBEC— An Bosti, S.W. Pr. Father Point Montreal Quebec	 15 16	30 7 30 7 48 7	5 19 3 35 1 13					75 1 62 1 60 1					5 1 0	- 10 - 12 - 12	7.0		‡ 6. U	9 13 31	22 21 13	1	11	1.65			
New Breyswick— Chatham Fre-lemeton Grand Manaa St. John	17 15 11 15	57 to 47 to	30 30 4	21 164 49 70	29 7 29 7 20 7	5 30 9 30 . 8 34	2+25 3+25 3+25	30 ! 34 ! 95 !	41 31				2	1	2	10 2	1 2	5	1.	21		5,			
Nova Scotia— Habbax Sable Island Sydney aWolfville Yarmouth	44 45 45	7.6	10 20					11 1 15 1 16 1 08 1			,		7	1:	5 5 5		1	2 1 3 5 1	7 11 25	20 1" 14 1:	1 3	50 50 50 50 70			
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RERMUDA Prospect	32	17 - 1	46										6,	ı	0			11	ti	22	1	7,4			

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA - METROPOLOGICAL SERVICE.

DIRECTION OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF FEBRUARY, 1912

#### DIRECTION OF WIND FROM

			17,11	inc i i	7.4 O	1 11	IND .	FICOM		
STATION										Total number of Observations.
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Alberta— Athabasca Landing Didsbury. Halkirk (Einsburg) Hillsdown Loveland Macfood Pakan (Victoria) Pembina Ranfurly (Wartelick)	2 0 3 1 0 1 2 3	2 1 0 3 2 0 7 3 8	4 0 0 0 0 1 2 3 5	4 2 8 7 6 0 3 2 12	1 9 9 6 2 0 7 1	5 2 15 8 8 0 14 22 6	7 3 8 0 8 15 3 10 12	4 12 15 21 3 0 14 11 15	0 0 0 12 0 12 1 1 1 26	29 29 58 58 29 29 58 58
Sasicatchewan— Cheplin. Crescent Lake. Estevan. Grenfell (Brownfall). Indian Head Larchmount (Glenbyan) Monsomin. Muenster (St. Peter's Monastery). Onion Lake. Pense (Gatesgarth) Wisseen.	0 1 1 1 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 2 0 3 5 4 0 7 5 3 4	0 0 2 0 4 0 1 0 7 1 2	! 3 1 4 3 0 4 6 3 6 4	0 4 2 7 9 2 2 0 0	0 3 6 6 17 20 1 19 0 1	1 5 11 2 7 8 21 1 3 4 7	19 9 5 25 28 24 0 25 5 12 7	0 2 1 0 10 0 0 0 0 0	29 29 29 58 87 58 29 58 29 29
MAMTORA— Bereis River. Brandon Hillview Moose Horn Bry (Anthensynle) Morden Oak Brink Stony Mountain Ostario — Agincourt Alton Beating Brinain Clinton Cottam Gerein Insis Lindsay North Bruce Oadin	10 1 1	6 10 7 4 2 0 8 8 1 0 5 1 2 0 3 5 2	6 0 5 2 0 0 0 3 5 1 2 5 1 6 7 13	8 13 10 7 7 0 3 4 8 9 8 7 5 15 7	4 0 0 8 2 4 6 2 11 4 10 12 10 0 12 10 0 0 0 0 0 0 0 0 0 0 0	1 10 1 1 1 6 3 22 11 3 7 8 7 11 11 16	6 13 3 6 12 6 3 13 41 6 13 146 20 13 11	13 30 59 20 10 15 11 25 4 18 8 7 1 9 82 15	0 3 3 1 0 45 0 0 45 0 0 22 15 0	58 87 87 56 58 29 48 87 87 87 88 58 58 58 58
Oven S and Pont Clark Port Dover Scarboro Junction Stoney Creek Uplands Outree Abith Anticost, W. Pt.	13 	3 1 9 0	0 0  1 3 10 3 10 3	0 0 0 0 0 0 0	6 33  0 1 0 8	6 7  3 4 5 1	6 0 9 6 27 21 41 7	3 4 5 2 33 0 3 31	2 0 7 0 9	29 58 29 29 87 58 87 87
Anticosti, Heath Foint Bicquet Brome Cape Chatte Chicontini	. 12 	9  2 0 8	16  8 7 0	6 0 1 23	4 	20 3 35	45 36 0	18 1 2 6	12 0 35 5	87 87 87 87
New Breenswick - Dalhouse . Pt. Lepreaux . Sussey . Novy Scotty . Kentydle .	0 14 0	0 4 2	5 3 0	6 5 1	0 3 0	1 1 1	11 11 3	2 34 3	1 0 19	29 75 29
Kentville. Parrsboro Port Hastings Truro Whitchead	0 9	13 1	3 0 4	1 2 4	0 3	3 1 11	9 0 36	13	0 6	29 29 87

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Moore;aw			2.1	23	1	}-					15	1.1			
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Brandon			11]	11		27	12				11		(5)		
Winnipeg			12	25	2	30				4.1	52		1.2		
Halleybury		01	13	20	11	16	52		11	53	,2	2 :	113		
Woodstock .			Lâ	20	.12	P	11	4+		1	15		11		
Lindsay				1.7	25					11		25	412		
Barrie				- 1		- 1			1	- 11	27	0.2			
Toronto			1.2	21	24	1		4.		4.1	51	71	112		
Kingston		e1		26	17		5.	12		11	15	25	н,		
Uttawa		01	24			51			10	hli	5.	27			
Montreal .		0.2	15	12	1;	211	45	54			51	-11			
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Quebec		61	15	23	31	52	- 5	3 -	-	.5		1.1	01		
Sherbrooke			15	25	17	12	4 -	17	40	51		22	ì		
Frederiction .		112	26	17	55	69	13	12		54	59	11	1.3		
Charlottetown		(1)	26	-1	.35	11	49	à i		60	50	32			

	Victoria.	Salmon Arm.	Nanumo.	Vaneouver.	Verseiz	Transmiss	Summerland.	Kanrloops.	Edmonton	Lethbrite	Inn mile	Medice to Har	Fort Durvey in	Lour Vernution	Bath at 1	Indom B. 3	Money Litt		E-12-1				Workers.	1.401.00	1, 1, 1, 1	Trans.	2 2	1 - 1 4 - 1	V			1	Const. 115. 1.35.
Registered duration in hours	5.6	65	7.5	- 51	72	81	81	89	120	140	115	110	10.5		115			1.0	111		24	Tils	11.7		ı		113	111	1			150	1.1
Percentage of pos- sible duration °o.	32	23	27	27	24	20	27	31	42	1-	41	25	ı)	31	31		9	34	100		11	190		25	2.7	-1		17	1			51	1.2
Difference from average %	4 1				.1.2																			7	1					7			
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#### Auroras recorded:- -

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- 5. 6.
- 7. Glen Bryan II, Prince IV, Waseca, Aweme IV, Kakabeka Falls IV, Sion IV, Waitefield IV.
- S. Sion IV.
- Fort Qu'Appelle IV, Glen Bryan H, Muenster IV, Prinze IV, Wascea, Aweme HI, Quebec IV, Lake Talon, Schreiber IV, Oliver.
- 10. Halkirk, Oliver, Waitefield IV.
- 11. Careross, Oliver.
- 12. Hillsdown IV, Peace River Crossing, Port Arthur III, Oliver, Waitefield III.
- 13. Lucknow IV.
- 14. Prince IV, Wascea, Mislassini IV.
- 15. Hillsdawn HI, Fort Qu'Appelle IV, Oliver,
- Halkirk, Crescent Lake IV, Fort Qu'Appelle IV, Muenster III, Aweme III, Campsie IV, Sion IV, Waitefield IV.
- 17. Halkirk, Fort Qu'Appelle IV, Glen Bryan I, Sion IV.
- 18. Fort Qu'Appelle IV, Waitefield IV.
- 19.
- 20,
- 21. 22.
- 23. Mistassini IV.
- 24. Halkirk.
- 25. Careross, Quebec IV.
- 26. Kenora HL
- 27. 28.
- 29. Mistassini IV.

#### FORECASTS FOR FEBRUARY 1612

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was (11) These were divided as follows:

				VERIF	ED.	
	District	No Issued	No. 1 71-	No Park	No Not	Per centage
Alberta		75	70	1	1	96.0
Saskatchewan		7	his			94.0
Manitoba		7.5	ti I	1	2	94.7
Lake Superior		- 1	7.1	9	1	11.4
Lower Lake Region .		.49		1.2	2	1 +
Georgian Bay		47	67	25	5	81.9
Ottawa Valley.		92	78	20	1	111.2
Upper St. Lawrence		12	7.5	11	3	915
Lower St. Lawrence			-1	12		
Culf		1 !	75	[19		×.,
Maritime Provinces West		113		27	‡	89-2
Maritime Provinces East .		113	71	54	t <sub>i</sub>	St. I
Total		1111	102	171	- : -	44.9

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have lean verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, March 26, 1912.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVI.

**MARCH**, 1912

No. 3

#### INTRODUCTION

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE.

#### BRITISH COLUMBIA.

In the Queen Charlotte Islands, the northermnost districts of Vancouver Island and on the neighboring coast, the mean temperature of March was a little higher than the normal. In the remainder of the Province, however, there was a negative difference from normal, varying from 1° to 2° along the Lower Fraser and the southern districts of Vancouver Island, and from 2° to 6° in the southeastern districts. About the Sth, minima of zero or 1° below were recorded in the East Kootenay, while in the northern districts temperatures of 5° to 10° below zero were of frequent occurrence till the 21st. At the close of the month maxima exceeding 70° were registered at some points in southern Vancouver Island and on the Lower Fraser.

#### THE WESTERN PROVINCES

The greatest differences from normal temperature in the Western Provinces occurred in southern Saskatchewan and amounted to from 5° to 9°. Although mean temperatures were less than normal throughout the West, yet in Alberta along the Red Deer and Bow Rivers the difference was only about 1°, and in eastern Manitoba was less than 1. During the first three weeks temperatures well below zero were of daily occurrence, but during the last week the weather was much milder in all districts.

#### ONTARIO.

10° to 30° below zero were registered from the 3rd to the 8th in the Georgian Bay counties, and again from the 16th to the 18th. The lowest temperatures recorded in the Lake Eric counties and the Niagara Peninsula were not, in general, below zero. In the Lake Superior districts the first 16 days were very cold, with night temperatures from 5° to 30° below zero, and day temperatures seldom exceeding the freezing point. Minima were below zero for the first ten days in Eastern Ontario, also.

The mean daily temperature was about 5° lower than the normal over the greater portion of the Province, while local departures from the normal mean were in many cases considerably greater than 5°.

#### QUEBEC.

Stations in Northwestern Quebec reported an average of but 8 days during which temperatures did not fall below zero. The lowest temperatures of the month were recorded during the first 6 days and ranged in these districts from 30° to 45° below zero. In the Lake 8t. John districts and along the Saguenay River the cold wave was not of such severity, although on the 5th the temperature decreased to about 30° below zero. Along the Middle 8t. Lawrence temperatures below zero occurred but seldom after the first week. Mean temperatures on the Island of Anticosti showed a small excess over normal, but over the remaining portion of the Province, temperatures were below normal, the difference ranging from 1° in the Gaspé Peninsula to 6° in northwestern districts.

#### THE MARITIME PROVINCES.

That portion of New Brunswick lying near Chalcur Bay experienced the lowest temperatures reported in the Provinces, minima on the 6th, 7th and 8th ranging from 10° to 20° below zero. In Nova Scotia and in Prince Edward Island, in most instances, temperatures below zero occurred on two days only.

The mean daily temperature of the month was about 1° below normal except in portions of New Branswick, where the difference was approximately 2°.

#### PRECIPITATION.

#### BRITISH COLUMBIA

The precipitation was everywhere in British Columbia much less than the normal amount. The deficiency on Vancouver Island and on the Lower Fraser River ranged as high as  $80^{\circ}$ , at many stations. In the interior of the Province precipitation occurred on an average of only 3 days, while at some points there was none.

#### THE WESTERN PROVINCES.

In almost every instance the total precipitation was less than a half of an inch, and in some cases was nil. The largest amounts were recorded near the confluence of the two branches of the Saskatchewan River, where the average of five stations was in excess of three-quarters of an inch, which closely approaches the normal for that district.

#### ONTARIO.

In the Lake Superior Districts, the Georgian Bay and Lake Eric counties, the Niagara Peninsula and the Ottawa Valley, the deficiency was very large, but in the East Central counties excess over normal was reported locally.

#### QUEBEC.

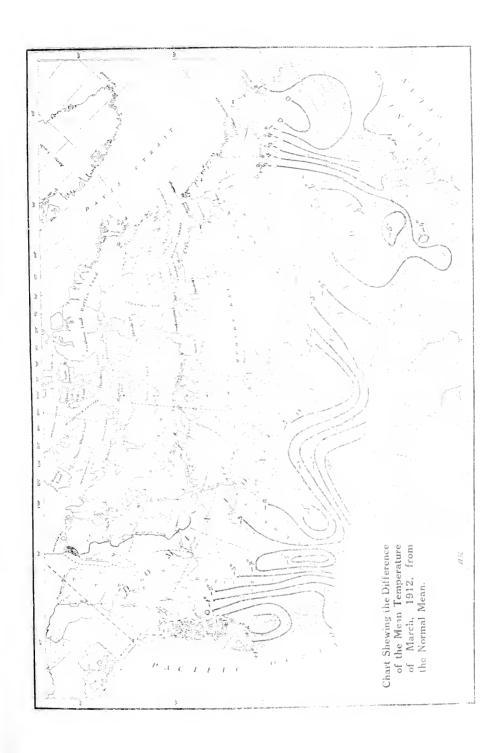
On the Island of Anticosti, and the lower shore of the Lower St. Lawrence, the precipitation was in excess of average by about one inch, but elsewhere in the Province the deficiency was as pronounced as in Ontario.

#### THE MARITIME PROVINCES.

Throughout the Maritime Provinces there was an excess amounting to about 20% of the normal except on the Bay of Fundy where there was a negligible deficiency.

#### ATMOSPHERIC PRESSURE.

The value of the mean atmospheric pressure for March was in excess of the average throughout the Dominion, the departures from average being generally about one-tenth of an inch, but in a few isolated localities they were about half that amount.



#### HIGH AREAS.

Ten areas of high pressure were charted. Five first appeared in the environs of the Yukon Territory; three in northern British Columbia and two to the northward of the Western Provinces. Five of the areas passed over, and five to the southward of the Great Lakes, seven eventually moving off the United States Atlantic coast, the remaining three breaking up before reaching the Eastern seaboard. Some of the areas were of much importance; others again were not very pronounced, but energetic, and they were in nearly all instances attended by much cold weather, the result being a mean temperature for the month well below the average generally.

#### LOW AREAS.

Fifteen areas of low pressure were charted. Four first appeared on the coast line of British Columbia, one in Alberta, one to the northward of Saskatchewan, four on the Californian coast, two in the Middle Pacific States, two in the Gulf of Mexico and one off the Florida coast. Six of the areas moved either over or to the northward and eight to the southward of the Great Lakes, while the remaining area broke up before it reached the Rocky Mountain Range. With few exceptions the areas ultimately passed over the Maritime Provinces and Newfoundland, where several became much more pronounced than they had been previously, their attendant strong winds at the same time increasing considerably in force.

#### DEPTH OF SNOW UPON THE GROUND.

Reports from British Columbia showed that at the close of the month there was very little depth of snow in that province except in sheltered places. In the Western Provinces, where there was no precipitation at some points during the month, the ground was practically bare in all districts.

In the Lake Superior districts, the depth varied from 1 inch in Thunder Bay to 14 inches in parts of Eastern Algona. From the Montreal River 14 inches was reported, Muskoka and Parry Sound Districts, 8 to 16; Haliburton, 18; Peterboro, 25; and Madoc, 12 inches. In Southern Ontario only patches of snow were to be seen, except in the woods.

At Mistassini, on Lake St. John, there was a depth of 18 inches; at Chicontimi on the Saguenay River, 34 inches, and at White Shore Lake on the line of the National Transcontinental Railway, 32 inches. Along the Middle St. Lawrence there was little or no snow.

#### THICKNESS OF ICE.

Thickness of ice was reported as follows:

Western Provinces.—Battleford, 19.5 inches; Swift Current, 30; Moose Jaw, 37; Minnedosa, 24.

Ontario.—Port Arthur, 34 inches; Cochrane, 30; Port Stanley, 24; Kingston, 14; Ottawa, 26; Midland, 22.

QUEBEC.—Harrington, 30 inches:

MARITIME PROVINCES.—Chatham, IS inches; Sydney, 12: Charlottetown, 16.

#### BRIGHT SUNSHINE.

The mouth of March, 1912, was characterized by a great number of bright days, the aggregate of the hours of bright sunshine exceeding the average throughout the Dominion, and to a remarkable extent in British Columbia.

## WINDS, MARCH, 1912

PROVINCES AND STATIONS.	Total Mileage.	Greatest Mileage In 24 hours	Greatest Mileage in one hour.	Number of days of Gales.	Number of days of Strong Winds	Number of days of bresh Winds	General Direction.
BRITISH COLUMBIA							
Friangle Island	4930 5788 4023	405 541 515	73 30 35	11 2 1	\$ 3	10	N N.
ALBERTA.							
Edmonton Calgary	4016 4456	$\frac{262}{388}$	20 25		1 5	\$ 2	NW. NE, NW
Saskatchewan.							
Battleford	$\frac{4680}{6779}$	525 39 <b>1</b>	39 22	1	$\frac{2}{5}$	12	SW NW SW NW
Manitoba.							
Vinnipeg	7842	417	30	1	12	5	NW.
Ontario.							
Port Arthur Parry Sound Southampton Woodstock Toronto	6427 5166 7385 6094 8011	396 335 439 371 595	32 31 28 27 48	1 1 2	6 1 11 3 12	11 12 8 12 10	NW, 8W, 8 NE NW, E.N <sub>1</sub>
QUEBEC.							
QuebecFather Point	9175 11219	613 768	$\frac{49}{51}$	7 6	11	1 9	SW. SW.
Maritime Provinces.							
Fredericton St. John Halfax Point Lepreaux Flat Point Charlottetown	7857 10660 10446 12971 12364 6064	515 597 625 655 811 494	31 44 56 55 55 31	12 13 1	10 14 12 11 11	10 6 12 2 5	NW. NW. NW. NW. NW.

## DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH. 1912.

*Stations not	furnished	with	Registering	Thermometers.	
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								Темрі	ERATUR	ε.		<u>'</u>	I're	IFITA FIG	N.	more.			ai	
STATION	Latitude N		Lorgitude W.	Elevation above rea level, ir fect	Mean	Difference from average	Yr's Observations	Highest	Date.	Lowest.	Date	Mean daily rarge.	Amount	Difference from average.	Heaviest fall in month.	Days with 91 or me	No. of fair days.	No. of auroras	No. of thunderstorms.	No. of fogs.
British Coll Mria—																				
S. Vancourer Island		,	0 /												- 4-					
Atherm (Beaver Creek Chyroquot Cownehm (Tzoalinleim) Latiner Ymanino Salt Spring Island Soke Victoria	49 49 48 49 49 48 48 48	15 11 25 05 10 50 41 24	124 49 125 47 123 42 123 4 123 37 123 20 123 44 123 19	306 10 170 125 25 85	23 2 43 2 40 2 41 2 40 5 41 1 41 3 42 5	$\begin{array}{c} + & 1 & 2 \\ - & 0 & 1 \\ - & 1 & 3 \\ - & & 7 \end{array}$	17 12 6 12 12 12 3 2 19	73 0 59 0 62 0 62 0 61 0 58 0 61 0 60 0	30 6-30 31 1 26 31 31 31	19 81 28 0 20 8 21 0 21 0 22 0 23 0 27 2	10 2 2 2 2 2 9	32 2 17 6 22 7 20 4 20 3 17 6 20 8 16 3	1 02 1 75 0 83 0 30 0 53 0 83 1 21 1 43	-1 54 -9 04 -2 73 -2 57 -1 28	0 49 1 10 0 39 0 20 0 36 0 45 0 56 0 37	6 5 6 2 4 5 3 9	25 26 25 29 27 26 28 28			1
A. Vancouver Island																	1			
Holberg Swanson Bay Trangle Island Winter Harboni (Qua) (ne)	59 59 50 50	39 37 52 32	128 18 126 53 129 5 127 40	680	41 1 39 7 40 2	= + 0 8	3 4 17	58 3 59 0 58 0	26 25 25	26 3 24 6 23 0	3 3	17 2 19 2 19 1	2 87 4 98 1 71		0.75 $0.205$ $0.94$	5	24 26 26			::
Lower Fraser Kirer																				
Aggresz Chilliwack Hope New Westmuster North Nicomer Femberton Harchery Roskin (Shave Falbs) Steyeston Garry Found) Vancouver	49 49 49 49 49 50 19 49	14 10 23 13 12 20 16 21 17	121 31 121 57 121 25 122 54 122 2 122 33 122 23 123 17 123 5	52 21 330 59 125	42 5 41 3 42 2 12 2 41 8 39 0 40 1 38 5 41 2	+ 0 6 - 0 3 - 0 7 - 1 6 - 1 5	12	65 0 75 0 73 0 62 6 65 0 65 0 61 0 54 0 56 3	30 26 25 31 31 31 25 31 31	26 0 22 0 21 0 23 2 23 0 17 0 21 0 22 0 25 9	3-6 23 2 3-9 4 10 2	22 6 21 0 27.2 19 6 21 0 24 9 21 7 17 8 16 8	2 03 1 13 1 14 0 65 1 10 0 20 1 72 0 41 0 89	$ \begin{array}{r} -2 & 93 \\ -3 & 56 \\ -5 & 46 \\ -5 & 95 \\ -2 & 15 \\ -3 & 26 \end{array} $	0 19 0 79 0 23 0 36 0 20 0 50	7 7 2 5 5 1 7 4 5	30			1
Upper Fruser River									,											
Babine Lake Barkervibe Chileotin (Big Creek) Fort St James (Stuarts Lake) Quesnelle	55 53 51 54 52	38 02 40 28 59	126 26 121 35 123 0 124 12 122 30	4180 3100 2280 1700	25 2 26 2 15 5 23 7	- 0 4 - 5 0 - 3 8	22 9 19 15	50 (0 57 (0 48 (0 59 (0	26-31 26 31 27	$\begin{array}{c} \cdot \\ -0.0 \\ -10.0 \\ -20.0 \\ -13.0 \end{array}$	2 1 19	25 1 29 8 27 9 33 9	1 10 0 10 0 14 0 10	-0 69	0.10	1 2 1	30	1		
Okanagan Valley																			,	
Lairview Heilley Heilley (Nickel Plate) Okaragan Mission (Kelowini) Princeton Summerland Vernon Colds((cam Ranch))	49 49 49 49 49 49 50	11 35 52 29 29 57 14	119 36 120 10 119 29 119 35 120 29 119 0 119 15	1200 1650 1100 1246	36 0 20 9 31 6 33 3 28 9 34 4 30 2	$ \begin{array}{c} - & 5 \\ - & 5 \\ - & 9 \\ - & 5 \\ - & 5 \end{array} $	17 5	66 0 45 0 62 0 56 5 64 0 65 0 56 0	31 27 30 27-31	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	20 20 4 0 2-3 4 2	23 9 22 0 32 7	0 09 0 50 0 00 0 05 0 26 0 08	-0 73 -0 33 -0 33	10.03	3 0 3 3 1	27 28 31 28 28 30			
West Knotenay																				ŀ
Crawlord Bay Fruit vale Grand Forks Creenwood Knr U Nakusu Needles Nelson Rossland	49 49 49 49 49 49 49	45 9 5 52 20 40 29 5	117 31 118 27 118 49 117 0	1752 1390 1760 3400	32 8 32 0 31 0 29 1 31 3 35 2	=	1 2 3 1 3 9	57 0 64 0 52 0 54 0 56 0 56 0 56 0	27 25 25-26 27 31	12 0 6 0 11 9 5 0 7 0 12 0	4-7 4-5 1-5 5 4-9 3 9	17 4 22 6 22 2	0 86 0 15 0 50 0 36 0 20 0 58 0 85	_	0.35 0 09 0 20 0 23 0.20 0 70 0 40	2 5 1 1 4 5	29 26 27 30			
First Knotenay																				
Boswell Candidook Usbacco Plans (I II.o) Wilner	49 49 49 50	19 30 1 34	116 41 115 50 115 5 116 14	2684	27 1 30 1 25 5	-36	3 17 3	59 0 62 1 35 5	31 28 28	-200 $-10$	7 8 2-9	28 3 23 6 27 3	0 03 0 99 0 00	-0.1	0.02 0.40 0.00	4	29 27 31			
Thompson River																				
Indictor Kambops Neola Lake Saluon Arm Trunquille	50 50 50 50 50	32 11 9 12 41	119 7 120 29 120 39 119 35 120 29	1180 1245 2120 1152	33 7 30 1 31 0 31 0	- 3 1 - 1 7 - 2 5	18 17 10 4	66 0 64 0 57 0 68 0	25 31 25-31 26	7 9 6 0 3 0 10 0	4 4-5 4 5	25 6 23 1 26 3 25 6	0 00 0 08 0 03 R		2 0 00 0 03 0 03 R	3	28	10.		:   :
North Columbia R ver Golden Glacier	51 51	16	116 55 117 29	2550 4072 1476	25 3 22 6		9	57 0 16 0	27	-10 n - 1 n 6 0	2	31.3 16.2	0 15 1 20 0 71		0 15	1 3 4	39 28 27			.   .

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METLOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, 4-9.

		*Stati	ons not f	urnished -	l with B	egisterip	g Therm	tindet-								
					Tis	drenari	'RE		Pia	0.10	ZO1					
STATION.	Latitude N. Longitude M.	Elevation above seu   level, in feet.	Meur.	Difference from	Yr's Observations   Hochost	Date.	Lowest	Date Wendeleares	An error	Internation 1	Beaviest fall in month,	I bays with it let mer	No of fared as	V - 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	No of the materials	-
BRITISH COLUMBIA-Con.																
North Coast  Bella Coola	52 40 126 3 54 18 130 3 56 1 130	, i4 150 N 170 1 215	39 S 40 7 30 5	+ 2 9	14 63 3 60 2 47	0 26 0 6 0 24-25	25 0	9 25 8 20 46 9 1 48 0	0.71		0 18 1 73 0 65	6 7 3	25 24 25			
Queen Charlotte Islands Reda Bay	52 17 131 53 58 132	7 5 9 30	41 7 40 2	$+\dot{0}$ 5	4   58 14   56	0 26 0 26-29		S-11 S 0 11-13 11 5	2 00 0 20	-1 <sup>*</sup> S1	1 20 6 10	2 9	29 29			
Yukon Boundary Atlin	59 35 133 3	38 2240	20 4		6 16	5 26	-13 0	10 18 2	() Pre		0.08	ı	50			
YUKON— Carcross Dawson White Horse	60 11 134 5 64 4 139 1	9 1200	19 0		5 49		-17 0	19 - 20 5	0.10		0.10	1	30			
Alberta—  N. Suskutehewan River  Daysland . Edmonton Edmonton Edmonton Gott Edge . Hatkirk tEmebarg . Loveland Pakan (Victoria) . Ranfurly (Waitefield) Wetaskiwin	55 52 112 1 53 33 113 3 52 0 112 52 59 110 4 52 17 112 1 52 30 111 3 51 0 112 3 53 29 111 3 53 29 111 3	0 2158   0 2795   3 0 1 8 2000	14 1 23 7 13 2 19 2 14 1 15 2 13 6	-2 3 - -	5 51 30 58 2 49 3 57 3 52 8 57 7 53	0 26 0 28 0 27-31 0 27-31	-32 0	1 24 9 1 29 8 2 22 8 2 25 0 19 27 1 1 33 2 1 28 1	0 00 1 40 2 05 T T 0 90 0 30	D 37	0 90 0 29 0 05 T T 0 60 0 25	0 5 1 0 0 2	31 26 30 31 31 29 30	1 3		
The Red Deer River  Alix Delia Duls'arry Eskville Harmattan Hillsdown Lucombe Red Deer Threehills Creek	52 24 113 1 51 38 112 2 51 40 114 52 23 114 2 51 45 114 2 52 14 113 2 52 58 113 4 51 13 113 1	5   3300   2   3500   9   2806   4   2783   9   2806	17 9 15 8 25 3 19 5 20 0 19 4		3 54 52 10 58 5 58 8 56 5 54	9 31 0 27-31 0 29 0 31	-20 0 -17 0 - 8 0 -27 0 -18 0 -20 0	19 29 7 2 20 4 2-10 25 7 19 30 0 2 26 3 2 31 4	0 05 0 20 0 17 0 45 0 50 0 13		0 05 0 20 0 40 0 30 0 25 0 10	1 1 1 4 3	555 555	2		
The Bow River  Calgary Cardston Farman (Playle Creek) Gleichen High River Law renee (Parkland) Lethbrouge Macloud Machine Bat Puncher Creek Sandial	51 2 114 49 12 113 1 50 59 113 5 50 35 113 5 50 16 113 2 49 42 112 5 49 43 112 5 49 44 113 2 50 1 110 3 49 0 114 50 6 112 3	8 4 2952 3 3394 6 1 2961 1 3128 4 3128 4 3750	21 9 17 6 17 1 14 4 20 9 19 0 22 5 17 5	-0 9 : : -2 9 -7 3	28 60 1 54 13 58 9 62 5 63 14 63 5 63 17 62 28 61 1 62	3 28 0 28 0 27 0 34 9 25 3 27 0 28	-14 5 -15 0 -35 0 -30 0	19   25   4   2   24   1   20   27   9   4   25   5   4   22   7   4   22   7   3   25   4   22   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   4   22   7   3   25   25   25   25   25   25   25	0.34 0.65 0.00 0.00 0.42 0.42 0.41 0.10 0.10	0 f0	0 30 0 4) 0 00 0 00 0 20 0 30 1 22 0 10 0 10	3 6 0 3 5 1 1	75 ST 125 250 30 31			
Rocky Monatains Banff	51 10 115 3 49 40 114 3	4 4542 0 4225	20 8 19 0	-12	17 50 2 50	9 27 3 25	, 21 0 20 4	2 20 9 9 32 1	0 2 0 3	1.86	0 P1 0 P	4 2				
Athabasca River Athabasca Landing Lanaford Pembina	54 43 113 1 54 33 114 1 54 12 114	9	15 7 18 5 18 2		9 55 3 57 5 56	0 27 0 23 0 21	-28 0 -31 0 -39 0	1 : 1 1 :8 1 1 : 10 2	0 ye 10 90		0 40 0 50	2				
Peace River  Dunvegan Fort Vermition Fort Vermition (2) Peace River Crossing Spirit River	55 56 118 3 58 27 116 56 15 117 1 55 40 118 4	5	13 7 19 5 15 5		7 51 51 5 57	2 26 5 26 0 27	38 0 38 0 30 0	1 31 1 1 39 0 1 38 3	1 1 11 2 11 3 1		0 (0) 0 (5) 0 (2)					

### DEPARTMENT OF MARINE AND FISHERIES, CANADA: - METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, 1912.

						•	Гемре	RATURE				Prec	IPITATIC	N.	more.			σi
STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month.	Days with .01 or me	No. of fair days.	No. of Auroras.	No. of thunderstorms
Saskatchewan— Ou'Appelle River											1							
Brandview. Brownholl (Grenfell) Brownholl Gresent Luke Estevan Fort Qu'Appelle Hubbard Denmagae) Humbohlt Imperial Indian Head Mosse Juw Mosse Juw Mosse Juw Mosse Gatesgarth   Qu'Appelle Qu'Appelle Qu'Appelle Qu'Appelle Qu'Appelle Qu'Appelle Qu'Appelle Qu'Appelle Yarbo Fartifield) Yarbo Grass Vorkion	52 2 52 2 50 2 50 3	5 106 0 1 102 25 2 103 4 5 103 24 2 105 9 2 105 9 2 105 23 8 103 40 3 102 2 1 105 3 6 103 3 1 105 3 0 101 3 7 105 0 0 105 0 0 105 0 0 104 14 7 104 3 7 104 3 9 104 9	1960 1957 1658 1858 1924 2064 1759 1884 1870 2115 1600 1885	5 5 8 9 7 6 7 2 5 6 7 8 0 14 5 5 9 15 7	- 9 2 - 6 7 - 1 3 - 6 7 - 2 1 - 5 1 - 5 .2 - 1 3 - 6 7	$\begin{array}{c} 10 \\ & 7 \\ 9 \\ + 1 \\ 6 \\ 5 \\ 1 \\ 20 \\ 17 \\ 10 \\ 6 \\ 1 \\ 14 \\ 28 \\ 1 \\ 26 \\ 1 \end{array}$	38 0 40 4 46 0 45 5 40 0 44 0 42 0 51 0 38 0 40 0 43 0 45 0 42 0 44 0 45 0 44 0 45 0 46 0 47 0 48 0	27 27 29 26 28 28 27 31 27 31 27 24-31 31	-98 0 -30 8 -22 0 -29 6 -32 0 -32 0 -32 0 -38 0 -28 0 -27 0 -31 0 -30 0 -28 0 -28 0 -29 0 -20 0	19 21 22 23 3-4 21 12 11 21 1-2	28 0 27 8 20 4 32 4 26 3 22 2 32 6 20 4 25 6 25 7 29 0 28 6 25 8 26 4	0.70 0.59 0.40 0.32 0.60 0.00 0.40 0.14 0.00 0.50 0.24 0.38 0.11 0.08	0 25 	0 05 0 00 0 30 0 50 0 15 0 16 0 06	4 6 1 7 3 3 0 4 4 0 0 1 1 4 4 4 4 2 3 3 1 1	27 25 30 24 28 31 27 27 27 31 29 30 27 27 29 28 30	3 4	
8. Saskatchewau River																		
Chaplin Assisted Kelyinhur-0 Larchmount (Glenbryan) Maple Creek (Divide) Oliver Rathmoullen Swift Current,	51 9	1 109 29 4 107 27	2202 3500 2429	6 9 12 9 7 9 11 7 4 8 1 8 12 0	- 9 4	26 3 2 3 3 2 25	50 0 46 0 46 0 43 2 43 0 38 0 50 0	27 26 29 28 27 28 31	$ \begin{array}{rrrr} -27 & 0 \\ -16 & 0 \end{array} $ $ \begin{array}{rrrrr} -28 & 0 \\ -24 & 2 \\ -36 & 0 \\ -32 & 0 \\ -22 & 0 \end{array} $	18 1-2 1 1 2 1 1	27 9 18.8 21 7 20.3 21 1 22 9 20 7	0 04 0 15 0 10 0 25 0 10 0 10		0.01 0.10 0.05 0.15 0.10 0.02	1 2 4 1 5	27 29 27 27 30 26	7	
N. Saskatchewan River																		
Battleford Lloydnumster Luseland Chino Lake Prince (Meota) Scott (Ex Farm) Wascea	. 53 1 52 53 5 51 . 51 5	1 108 20 8 110 0 5 109 34 12 109 59 0 108 20 6 109 29	1620 1700	11 1 7 8 7 0 5 5 6 0 6 0 8 7	- 2 0  - - -	21 -2 -6 -3 -4	53 0 48 0 43 0 44 0 50 0 46 0 30 0	31 27 31 26 27 27 27	$\begin{array}{c} -27\ 0\\ 30\ 0\\ -35\ 0\\ -39\ 0\\ -37\ 0\\ -31\ 8\\ -28\ 0\\ \end{array}$	2 3 1 2 3 1 1 1 19	24 2 24 1 21 3 29 7 32 8 25 4 23 5	0 20 0 05 0 00 0 15 0 23 0 40	-0 46   	0 0, 10 0 05 0 00 0 15 0 23 0 40	1 0 1 1 1	30 25	i	<u>-</u>
The Suskatchewan Forks																		
Chagoness , Duck Lake Melfort Prince Albert Rosthern Saskatoon	52 52 53 52	32 104 13 54 106 20 17 104 30 10 106 0 10 106 20 15 106 30	1432 1657	8 4 6 9 8 7 3 9 6 7	-3 ( -7 (	2	47 0 44 0 53 0 40 4 48 5	31 31 31 28 28	$\begin{array}{c} -36 \ 0 \\ -26 \ 0 \\ -27 \ 5 \\ -30 \ 0 \\ -32 \ 0 \end{array}$	1 20 2 1	28.3 26.2 27.9 24.7 24.5	0.80 0.95 1.03 0.60 0.60	0.00	0 40 0 40 0 80 0 60 0 20	3 6	25 30	2	
Lower Suskatelewan River	,-															1	ĺ	
Cumberland House Lost River	53	56 102 16		4 3			39 0	25	-25 O	1-19	25 8	1 _		1 _	_		-	
Manitoba																		
Qu'Appelle and Assiai- boine Rivers															1			
Aweine (8t, Albans) Buttle Brandon Carberry Carman Cypress River Hellview Minnedless Ninette Struct Piperson Piperson Portage la Pravie Portage la Pravie Viriden Viriden The Dat Divine	50 : 19 : 49 : 49 : 49 : 49 : 49 : 49 : 49	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1703 1176 1258 872 1232 1400 1699 1363 1649 1531 1400	11 8 10 2	- 1 6 - 5 6 - 4 6 - 5 7 - 0 8 - 0 1	25 26 26 1 29 1 2	38 0 41.0 36 0 -	27 27 - 24-26 28 25  23	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2 2 2 2 2 2 2 2 1 	26 9 	0 43 0 27 0 05 0 69 0 13 0 86 0 10	-0 £	0 0 10 0 05 2 0 23 0 05 0 46	88 33 3	28 30 23 28 28 28	1	
The Red River Almasippi	49	14 99 20		15.6	- 3 2	10	42.0	24-29	_9n r	2	9t e	0.05	_	0 05	1	30		
Mot den Oak Bonk Stony Mountain Wianipeg	49 49 50	11 98 6 11 98 6 57 96 42 10 97 14 53 97 7	978	15 6 14 4 11 8 11 3 15 3	- 3 5 - 2 4 - 0 f	10 17 30	46 0 36 5 30 0 41 5	24-29 25 24 26 24	-20 0 -15 0 -24 7 -21 0 -17 6	2 1 2 1	25 8 23 0 23 7 28 0 24 9	0 05 0 05 0 80 0 08 0 30	+0 1 -0 93 -0 93	1 0 05 7 1 0 30	5	30 26 29 24	1	

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH. 1992

\*Stations not furnished with Registering Thermometers

						7	l'empe	RATURE				Phe	IFIIATI	on.	£			
STATION	Latatade N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from	A Faciliser Autous	Enghest	Date	Lowest	Date	Year daily tuner	Amount	Difference from	Heaviest fall in month	Days with 01 or more	No of fair days	No. of nurotins,	No. of fogs.
Manitoba-Continued .																		
Dauphin Lake and River	5 /	s /																
Berens River	72 18 51 8	97 23 160 2 99 3 i	716 957	-01 104 61		1 2	26 0 78 0 77 5	27-25 27-25	-12 5 -17 5 -27 0	14	27 1 21 4 25 5	1 (0 + 20 1 (19	-	1 20 0 20	3 1	30 17	5	
Lake Winnipegosis															17			
Le Pas Swan River	53 49 52 6	101 15 101 15	560 1112	2 's 7 7	-	.' 1	35 0 40 0	27 31	-32 m -30 m	1.	26 S 27 4	((4))	=	0 09	.8	23		
ONTARIO-																		
The Lake Superior Districts  Rainy River																		
Kenora	49 4*	14 02	1102	10.3	-0.9	13	34 ==	39	-34 (	2	201.2		→ 12	0.30	4	27	1	
Thunder Boy Kakabeka Falls Port Arthur Schreiber	48 25 48 27 48 50	\$4.26 59.12 87.15	912 644 933	11 4 15 2 10 6	_3 9 _4 0	32 12	50 0 45 9 51 9	27-25 25-25	-31 : -14 : -31 \$	2 2 2-3	06-4 25-4 29-6	0.70 9.36 2.55	59	0 20 0 15 0 80	6 6 8	25 25 23	1 3	
Algoma Bruce Mines .	46 18	53 55 50 59	595	17 5 16 9	-9 0	14	44 .	15	-21 0	3 5	28 8 23 7	0.20	-i 18	0.10	2	29 30		
Copper Cliff Porcupine Providence Bay. White River	46 30 48 29 45 40 48 35	80 59 81 18 82 14 85 16	1252	16 9 17 7 7 5	 5 4	1	43 0 43 0 36 0	19-28 19 15	-21 0 -26 0 -16 ( -39 0	5 5 3	23 7 23 2 35 8	0 10 0 01 1 20		0 10	1 ()	30 31 24		
Nipissing Cochrane Haileybury Montreal River	49 2 47 29 47 8	\$1 0 79 39 79 29	946 687	10 9 16 2 13 2		2 19 2	35 0 43 7 45 0	17-18 19 19	-25 0 -23 0 -31 0	3	28 0 25 5 30 1	1 44 0 59 0 20	66	0 80 0 18 0 20	4 9 1	27 22 30	3	
Upper Ottawa River																		
Lake Talon (Rutherglen). Stonecliff (Rockliffe)	46 15 46 9	74 45	557	17 6 16 3	-37	17 35	45 0 45 0	19-25	-24 5 -30		34.7	1 15	$-\frac{1}{1}\frac{51}{37}$	0.50	5	26 25	1	
Upper St. Lawrence and Lower Ottawa Rivers Kingston Montague North Gower Ottawa Renfrew.	44 13 44 56 45 × 45 26 45 26	76 29 75 57 75 43 75 42 76 39	285 	22 3 17 5 19 0 18 1	-5 4 5 7 1 9	35.2	44 6 45 0 44 0 45 0	24 do 22 do 22 do 25 do	- 27 5 - 27 5 - 17 0 - 27 0	10 10 10	18 0 24 1 20 5 27 5	1 63 1 20 1 50 1 65	0 17 0 65 1 03 -0 39	0.60	12 3	19 28 22 23		5
Georgian Bay Counties																		
Barrie Esatrie Coldwater Coldwater Collingwood Gravenhurst Huntsville Middand, Orillia Owen Sound Paren Sound Starte Sheltarne Uplands	44 23 44 35 44 31 44 54 45 19 44 44 45 19 45 15 45 15	79 41 79 40 79 40 80 20 79 53 79 53 79 53 79 54 80 25 80 25 80 80 80 80 80 80 80 80 80 80 80 80 80	839 800 600 750 775 597 635 1038	15 4 16 2 16 7 19 4 18 7 10 4 16 6 15 6	-4 7 -3 1 -7 5 -4 7 -6 8	17	44 0 47 0 51 0 48 0 48 0 45 0 48 0 51 0 48 0 51 0	19 20 25 19 19 50 5	+15 0 -20 0 -24 0 -27 0 -13 0 -18 0 -29 0 -15 5 -27 0	8 3 3 8 6 6 2 1 1 3	24 1 2 2 2 2 2 2 2 3 4 4 2 3 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 75 11 93 1 40 2 76 1 40 1 80 1 70 1 80	1 30 -1 63 -0 75 	0 73 1 00 0 80 0 80 1 20 0 70	3 5 4 9	3577735 277235 28.8 27.2 27.2 27.2		1
Lake Huron Counties																		
Birnam Clinton Coderich North Bruce. Pont Clark Sarnia Southampton	43 2 43 32 43 45 44 23 44 5 42 59 44 30	\$1 55 \$1 37 81 41 81 25 81 44 \$2 24 81 21	595 586 586	22 0 16 3 19 2 20 3 - 26 4 19 3	-4 S	9 22 24	45 2 12 0 143 0 42 0 45 1 45 2	17 20 20 17-28	-7.0 -12 -5.0 -17.4 -21.2	23 16 3	14 : 20 6 15 6 - - - 	15 15 15	0 41 	0 50 0 50 0 20	9 6 1	25 25	1	1
Lakes St Clair & Erie, Niagara Peninsula																		
Chatham Cottam Grimsby Pelee I-land Fort Burwell Fort Bowel Fort Bowel Fort Bowel Fort Bowel Fort Bowel Welland Wallaceburg Welland Windsor Forther Windsor Forther Windsor Forther Fo	42 23 42 7 43 13 41 50 42 39 42 27 42 40 43 9 43 35 42 35 42 59 42 20	\$2 12 82 45 75 36 80 55 80 13 81 12 79 17 79 17 82 24 79 17 83 4	592	25 × × 25 × 25 × 25 × 24 5 24 5 24 7 26 0 3 25 0		24 0 0 3 3 3 3	52 ( 15 0 0 47 5 44 7 4 4 0 0 1	19 31 19 29	-2 0 0 0 -3 0 0 0 -1 0 1 0 1 0 1 0		12 4 15 5 11 5 11 5 11 5 11 5	2 18 1 10 2 16 2 16 2 16 1 16 2 16 1 17	0 23 -8 13 1 1 1 6 -0 8	4 0.80 0.20 1.206 0.77 3 0.74	14	24 25 25 27 20 27 24 23		1

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA: - METEOROLOGICAL SERVICE.

CEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, 1912.

\* Stations not form-hed with Registering Therm univers.

STATION			=			Тімі	LRATU)	ti:		PRI	SCIPATIO	ıN	n.ore.			ns.	
West Central Counties	STATION	Z. 5	Developed over sur	Ė	A r's Observations	, Ibelie-t	1 Botto	Lowest	Date: Mean daily range.	Amount	Difference from Average.	Ξ.	01 or	No of fair days;	No. of auroras.	No. of thunderstor	No. of fogs.
West Central Counties	CSTANIA -Contained-																
Figure 1																	
Manufact	Alten Breatland Guelph London Faris Stantond	42 5 5 5 1 42 5 5 5 1 13 12 80 1 13 23 81	16 1050 13 808 25 840 - 0 1131	32 5 — 34 1 — 25 0 —	1 S 24 5 5 29 1 9 23		31 17 31 19	0 0 -4 6 - 1 5 - 5 0	3 19 8 ;	0 90 0 85 26 3 2 15	-0 84 -6 82 -0 19 -0 37	0 30 0 50 0 75 0 92	8	21 23			1
Hamilton	Lake Ontario Counties																
Emptode	Autora Harmiton Lorne Park Searboro fet Tarosto Terontro is (Lake ric Home)	18 72 20 1 41 41 70 41 40 70	24 886 54 8 8 97 10 548 21 350 21	19 5	- 4 - 1 - 2 1 5 71 - 0	47 2 54 0 45 0 45 7 45 0	20 19 19	- 2 0 3 0 4 0 4 0	3 0 23 0 3 16 0 4 15 3 15 1	2 88 	+0 95	1 10 0 83 0 85	4 5	27 3			i
Lakement	East-Central Counties																
Bonn	Halitur(on Kunno ent Laken H Linds (v. Mark)	15   1 77   15   15   17   18   18   18   18   18   18   18	51 28 1050 38 920 15 851 45 872 21 575 10 722 18 9	22.0 =	6 9 23 - 13 2 9 27 5 8 33	40.5	25 29 29	-29 U	5 23 6	9.110	- 1.17	1 56 1 51 0 60 1 60	10 1!	27 21 20 25	1		
Brown	Quinec-																
Continue 49		,															
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Cup Rouge D'Frich Martinal Quablec, Ste Abundale B Revue Shawarigeri Full-	46 46 71 45 75 71 45 30 71 16 45 71 16 27 71 45 51 71	18 21 896 35 187 19 996 59	15.7	- 1 34 - 1 34 - 3 37 - 3 5 - 1 - 9	13 0 50 5 41 8 2 43 8 4 43 0 42 0	19 18 18 18 18 18 18 18 18 18 18 18 18 18	-14 2 -20 0 - 7 3 -11 2 -25 0 -21 5 -25 0	5 13 7 4 18 4 5 18 5 5 35 0 6 23 5	2 40 2 55 1 82 2 23 0 22 0 68		1 10 0.70 1 02 0 81 0 17 0 50	11   9   10   11   2   6	20 22 21 20 29 25	1		2
Constitute   Con	Lower St. Lawrence & Gulf																
Cheestina	Antreo D. W. 12 Enequet Cane Crestre	D 52 01	32 30	$\frac{21}{21} \frac{8}{9} +$	9 2 32	35 0 47 0 42 0	18 18	- 3 U 0 D	5 <u>-</u> 5 -	3 92 3 95 4 17	+0.99	1 20 1 20 1 00	9 10	22 21 19			1
Laber   State   Laber   Labe	Lake St. John												1	1			
All of the control	Cho sommer 29 Links Felward La Luque Mistre ma	17 39 72 17 27 72 18 54 72	15 1333 48 520 15 360	12 7 — 8 5 11 1 10 5	5 \ 3	0.24 30.8 0.44	18-19	-39.5	5 26 2 5 30 2 5 28 8 6 26 7	0.85	-1 85 - - - -	0 65	1	27 27 26 30	1		4
White chard 1 b 18 12 75 15 5 5 7 1 12 0 20 48 0 4 35 3 1 20 - 0.50 4 27 8  The North Share  Club, Cr. 50 16 66 25  New Bar 1 12 1 12 1 12 1 12 1 12 1 12 1 12 1																	
Clade-Ce 50 to 66 25  New Bio (197)	Winner Cristing Weymort a little at White Share I. L.		50	9 2 - 7 0 6 × 5 3	5 2 33 - I - I	4 F U 3 F U 12 E	17-18 20 13 20	$-49 \ 4$ $-35 \ 0$	3 35 1 5 33 2 5 28,5 4 35 3	1 05	_	0.50	_	27		::	i
New Bar																	
(Section 1) 11 12 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	Chul, Cr	50 12 66	25												-		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Chathea 11 (theo, is 1 or lead to 1 or lead to 1 or lead Maxim Monte to 1 or lead t	16 9 64	46 19 45 50 28 03 4 70 15 15	25 7 =	0 3 28 1 0 15 0 5 31 1 8 39 1 4 15	51 7 53 0 43 0 49 1 51 5	16 15 13-15 20 15	-13 0 9 0 - 5 0 4 0 3 3 -21 0	4 5 14 5 5 19 5 5 13 4 6 21 6	3 64 4 03	+0 64 -1 62 +0 69 -0 91 -0 43 +0 10	1 40 0 81 0 80 1 15 1 14 2 20	4 10 12 7 8 15	19 24 23 16 26			6 9 3 1

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOBOLOGICAL SERVICE.

#### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, 1912-

\*Stations not furnished with Registering Thermometers

	_				sea					Т1.М1	PER	TUI	Œ			Pari	THIT AT	os	more			1 2	
STATION	Letertude		- Farman III		Elevation above se level, in feet	Mean	Deficience from	average	Yr's Observations	Highest		Dete	Lowest	Date	Mean dady range-	Amora	Difference to do	Heavest fall in   mosth	Days with Offerm	No of far days	No. of Auroras	100	New offige
Nova Scotia—	0	,																					
Antigonish Halifax Kentville. Parrsboro'. Port Hastings Sable Island, E. Pt	44 45 45 45	39 3 23 30	61 63 61 61 50	36 19 22	50 88 40 40 45 25	27 1 29 9 17 4 22 3 31 5 31 9		1 6	38 1 15 21	5% 0 50 3 51 0 45 0 64 0 43 0		19 16 31 17	$\begin{array}{rrr} -7.0 \\ 0.0 \\ -10.0 \\ 8.0 \\ -13.0 \\ +4.0 \end{array}$	6	21 6 15 5 16 5 13 5 11 6	6 69 2 55 3 50 3 82	+1 35 - - - +0 67	1 40 0 62 	5	15 22 26 23	1		7
Sable Island, Matte Str. Sydney Traro 'Whitehead   Windsor Wolfville	45 44 45	22 15	63 61 64 64		35 77 20 90		+	0.5	38 9 11	51 0 55 4 48 0 50 2 46 1		16 23	$-\frac{2}{16}\frac{4}{2}$ $-\frac{13}{1}\frac{6}{5}$ $-\frac{9}{1}\frac{5}{5}$	6 12 11	16 6 19 7 14,1 15 6 11 2	5 56 3 91 4 72 4 50 2 96	+1 10 +0 10 - -1.21	0 90 2 10 2 05	14 14 10 12 12	16 19 17			
Yarmouth .  P. E. Island—	4-3	911	(at)	2	0.0	24.0	-	11 31	31	40.1		22	1.0	11	11 2	'11	1.21						
Charlottetown Charlottetown (Exp. Farm) Hamilton	16 46 46	14	63	10 ¦	3× 75	25 9 25 9		1 2	37	45 0 45 5			-10 0 - 9 2		15 1 15 2	2 79 3 63	-0.31	0 53 0 63	13 17	18 14	1		1
Newfoundland-																							
*Amour Poiat	47	28 0 38 43	50 55 55 54	10 52	27	$\begin{array}{c} 15 & 6 \\ 25 & 6 \\ 16 & 7 \end{array}$			4	38 0 47 0 33 0	1	14 16 16	$^{-17\ 0}_{-\ 7\ 0}$	5-6 5-6	18 3	3 00 2 64 0 75	_	0 50 0 40 1 10	8 16 12	23 15 19	1		1 2
Fogo *Point Riche Port aux Basques St. John's	50	42	57 59 52	17 25 10 42	35 27 125	$\begin{array}{c} 18 & 3 \\ 23 & 3 \\ 27 & 0 \end{array}$		1.5	29 4 39			16	-10 n - 2 n - 7 n		11 6 12 7	1 38 7 87 2 34		0 50 1 20 0 56	20	21 11 18			1
Bermuda — Prospect	32	17	64	46 :	151	64 0	+	0.9	21	73 6	i	22	51.0	1	10.7	4.52		1 40	14	17		2	

		R.	AINFAL	L.			SNOW	FALL.		1010000
STATIONS.	Amount in inches.	No of Days 01 or over.	No. of Fair Days	Heaviest Fall in Month	Date	Amount in inches.	No of Days	Heaviest Fall in Month	Date.	REMARKS.
British Columbia— Alkalı Lake	0.04	1	90	0.01	07	1.	,	1.0	90	
Annis (Canoe Point) .	0 03	1 1	29 29 30	0 04 0 03 3 06	27 28 28	1 8 0 5	1	1.8 0.5	20 15	
Akamina Roover Luke	1 32 1 09	5	26	9.55	15					
Coquitlam Denman's Island	1 10	4	27 27 27 27	9,55 0 76 0 58 0 05	15 15	11.0	2	5 0	15 19 17	
rerguson	0 05 2 08	8	23	0 64	28 15	11 0	o		1,	,
Horaby Island	0 61	2 5	29 26	0.35	14 15					
Jordan River (Bear Creek) Little Oushoum (French	2 22 1 10	5 7	20	0 77 0 44	28	8.7	1	4.5	18	
Goldstream Luke. Hydraulie Horaby Island Jordan River Jordan River (Bear Creek) Little Qualicum (French Creek, V I). Monte Creek	0 28 0 00	3	28	0.10	14-29					
Nnas Harbour Shawmgan Lake	0 87 1 25	2 7	28 24	0 52 0 45	31 15	2 0	1	2 0	17	
EBERTA— Bardo						1.5	1	1.5	29	
Bismark Bruederheim	0 02 0 17	1	29	6.02	28	3 0	1	3-0	29	
Bittern Lake Brooks		1	29	0 03 0 17	28 28	1 0	1 2 2 6	1.0	29 18	
Campsie Caldwell -	0 18	1	28	0.18	28	11 2 2 0 5 8	2 6	5 5 4 5	29 29	
Dunstable	·· R	0	28	R	_	2 0 5 8 3 0	2 3	1 0 4 6 3 0	18-29 29 18	
Jumping Pound Lacombe .						4.0	3	5.0	18	
Loch Sloy		1.				9.1	4	3.0	29	
Linebam Macleod.						10 0 8 0	4 2 5	6.0	18	
Mayeroft Noteby						4.8	`	1 5 2 0	12-29 29	Fog 18t1.
Okotoks . Pekisko						0.5 11.2 4.5	1 5 3	0.5 7.7 2.0	6 29	
Ponoka Sion Seven Persons	0 30	2	29	0 17	28	4 5 8 H 3 O	3 1 2	2 0 8 0 2 2	19-26 29 18	
Tilley							2		15	
ASKATCHEWAN-						3 8		73 44	1	
ASK VICHEWAN— Gull Lake Last Monntain Maple Creek		- ×				11	3	3.0	19 19	
Meadow Lake Willow Creek							4	0.0	. 19	
A NITOBA—										
Cartwright Deloraine	0 10	1	27	0 10	26	3 0 2 5	3 4	1 5	21 23	
Ciretna	•					2.0		1.5 U.5	23 1 30	
Norquay (Swan Lake) Rapid City Rose Bank	1 10	1	24	0-10	27	2 6	5 6	1.0	29	Fog 17th
STARIO – Deer Park	0.09	1	26	0 09	31	11.5	4	\ 5	15	
Datton Enridale Georgetown	0 37	1	93	0.37	15	5 0 7 5		\$ 5 2 0 2 0 10 0	$\frac{14-15}{16}$	
Crunthuses	0 15 0 90	1	25 22	0 15 0 41	31 16	5 0 7 5 15 9 7 0 14 0	3 5 6	10 0 2 0 6 0	15 13	Firm 17th
Grand Valley MacCae Orangeville	0 27	1	24	0.27	31	14 0 10 0 26 4	3	5 0 5 0	16 15 16	
Struthme		,	-1	17 21	1	10 0 22 0	6 2 8	16 (I 6 (I 11 ()	16 11 15	
Watford . Westport	0 29	1	-	0.29	31	15.9				Snow not measured
Westminster Wooler Wesley	B	1	28	0.64	31	9 0 14 0 17 0	5 3 5 4	5 0 4 0 6 0	15 15-21 15	
Wattenwyl	0 II	1 -	24 26	R 0 H	18-20 18	6.9	4	6 0 4 2	16 31	Fog 29th
CEBEC- Lucerne						to a				
Lucerne Perkins Mills Quinze Dain Timiskaming						$\frac{10}{11} \frac{2}{3}$	3	7 0	15 15	
Timiskaning						5 8,	4	2.5	8	
ew Brenswick— Point Escanning	0.70		25							,
ava Scotta	0.70	3	25	0.51 .	29	12 6	4	6.3	10	
Kedgemakooge Lake (New			1							
Bag Mushamush Lake (Ma hone) Kedgennakooge Lake (New Grafton) Milton	6 56	6	21	1.55	15	3.8	1	3.8		
Kedgemakooge Lake (New Crafton)	6 56 3 28	6 5	24 21	1 55 1 27	15 15	3.8	1 2	3.8	10 10	

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FORST CLASS DURING THE MONTH OF MARCH, 1942.

a Barometer not reduced to sea level

-	_				Pre	340	RE,		meliter.	lour).	completely				Dir.	ECTIO	OF	W171	- FB0	л —			Vε	WIND	OF
STATION	Latitude N.	Longitude W.	Elevation above so Sevel, in rest	Mean reduced.	History	The state of the s	Lowest.	Range.	Mean relative humidity	Mean amount of cloud.	No of days comp		z :		⊴ .	<u>x</u>	X.	, , , , , , , , , , , , , , , , , , ,	=	·	Ċ.	observations	Mean miles per boar.	Maximum velocity.	Date and direc-
BRITISH COLUMBIA— Athin Barkerville Kamhoops  «Namaine. Prince Rupert Trangle Island «Tranquille. Vancouver Victoria	50 53 50 49 54 50 50 49 45	35 133 : 2 121 : 42 120 : 10 123 : 18 130 52 129 41 120 : 17 123 24 123	20 5 130	30 ( 30 ( 29 9 29 9 28 30 ( 29 9	71 29	21 3	S 11 9 58	0 93 1 11 1 15 0 87 0 99 1 09 0 84 0 91	277 AB2	40.000		1 3 1 8	3 0 1 0 1 3 23	0 1 0 1 1 1 5	0.0000000000000000000000000000000000000	5 0 2 5 1 5 1	10 4 0 5 0 3 11	1 0 2 0 1	1 0 2 1 12	2 0 7 12 0 1 8 5	26 62 11 27 40 42 26 0	62 62 62 62 62 62 62	7 1) 3 5 4 1 5 1 7 9 8 0	16 12	29 N W 22 N W
YUKON— Dawson	64	4 139	20 1200																						
ALBERTA— Banff Calgary Edmonton Medicine Hnt	51 51 53 50	10 115 2 114 33 113 1 110	34 4540 2 3585 30 2150 37 2160	30 30 30 30 1 30.	09 30 16 30 07 30 08 30	51	29 44 29 31 29 41 29 31	1 1 08 11 22 11 33 11 42					0 14 0	9 3 12	2	2 2 1	4) 0 11 20	19 9 28	4 7 5	0 26 6 2	24 1 4	62 62 62 93			
SASKATCHEWAN— Battleford Moose Jaw Prince Albert Qu'Appelle Swift Current	52 50 53 50 50	41 108 21 105 10 106 30 103 20 107	20 1620 35 175 0 1433 47 211 45 243	0 30 9 30 2 30 5 30 9 30	14 30 21 30 13 30 13 30 19 36	75 80 71 71 81	20 50 20 50 20 50 20 50 20 50 20 41	i 1 22 5 1 50 5 1 23 5 1 21 7 1 34	**				1 5 10 3 5	5521	2 1	12 2 2 1 2	1 2 12 4 16	19 15 2 21 29	22 20 26	15 14 3 18 13	24 16 36 1	93 93 62 62 93			
Manttoba— @Aweme (St. Alban's) . Mintedosa Winnipeg	49 50 49	42 99 15 99 53 97	33 118 50 169 7 76	0 28 9 30 0 30	89 29 17 30 20 30	1 42 F 75 F 86	28 4. 29 6 29 6	5 0 97 5 1 13 4 1 16			4	1 2	2 13	2 0	2	í	116	10	4.3	10 16	37	62 62			
ONTARIO— Cochrane Hulleybury Kingston Londen Londen Porry Sound Porry Sound Port Stanley Southampton Stoncellf Toronte White River Woodstock	49 47 42 45 45 45 44 46 43 43 43	59 81 26 75 19 80 27 89 40 81 5 78 40 79	0 94 39 18 29 28 13 80 42 29 6 62 12 64 13 56 6 57 24 33 47 98	6 30 7 30 5 30 8 30 4 30 9 30	20 30 18 30 18 30 12 20 15 30 16 30 14 30 19 20 18 30 18 30 18 30 18 30	98855777777895777	29 1 5 5 4 5 5 5 5 4 5 5 5 4 4 4	1 1 29 5 1 25 0 1 25 0 1 25 9 1 25 4 1 25 2 1 25 2 1 26 3 1 26 4 1 27 8 1 26 4 1 27 8 1 26 9 1 28 9			5	7 11 3	14 0 0 0 6 7 5 12 12 12 12 5	10 10 43 5 10 6 11 0 13 0 21	121 1 6 8 6 1 9 0 7	2	10 13 4 2 1 21 0 1 2	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 6 11 15 12 11	17 9 17 13 7 17 20 0 0 12 4 19	2 15 0 0 5 2 4 13 13 3	22 62 62 62 62 62 62 62 62 62 62 62 62 6	11.	11	17 S
QUBBEC— Father Point Montreal Quebec	48 45 46		19 5 35 12 13 23	20 :30 57 :30 96 :30	01 3 13 3 ,08 3	0 6; 0 74 0 65	39 S 29 S 29 S	14 1 25 19 1 35 15 1 30			5 4 5	.9 6 9	5 1	4 11	1	3	1 5 2	21 12 17	14) 18 20	6.97	0 2	62 62 62			
New Brunswick— Chatham Fredericton Grand Manan St. John	47 45 44 45	47.66	26 36 46 4	21 30 54 39 49 30 70 30	02 3 05 3 04 3 03 3	0 56 0 65 0 85 6 65	29   29   25   27   21	13 1 4: 17 1 F 36 1 N 23 1 4.		-1	5 5 5 5	1.71.7	2 3	5 5 5 7	11	2 7	0 / 1/11	10 15 14 10	17 20 3	14 34 28 21	1 4 1 3	62	10 3	. 20	72 \1
Nova Scotia— Halifax Sydney aWolfville Yarmouth	44 45 45 43	10 50 7 64	35 10 20 2	58 30 35 29 65 30	02 1 98 1 90 3 1 06 2	(0 61 (0 5* (0 6)	2000	18 1 2 84 1 7 83 1 20 32 1 3	4		. 7	14	6 15 9 15	11 3 2 5	1	2 1	1 1, 4	11	11 15 21	13 11 5 10	0 1 4 2	62 62			
P. E. Island Charlottetown	46	14 63	10	38 30	01.3	0 55	29	28 1 2					3	1			1.		`	13	16	62			
Newfoundland Burin	47 47 47	43:54	10	30 27   25	1923	30.50	29	23 1 3 06 1 4 01 1 3	1		6	7	2 7 2	1 5	1	1 5 1 1 1 5	7 1	14	9 12 13	17	1	1 62			
RERMUDA Prospect	32	2 17 64	46 1	51 30	21.3	30-17	.20	×7 0 6	0.4				9			: 10	12		. 7		(	) 62			

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOPOLOGICAL SERVICE.

DIRECTION OF THE WIND FROM THE EIGHT CARDIXAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF MARCH, 1912

DIRECTION	OF	WIND	FROM

			17171		J.					
STATION										Total number of Observations.
	ż	N.E.	щ	S.E.	ś	8.18	3	N.N.		Total Or
Acceptance										
ALBERTA— Athabascu Landing Didsbury Hallark (Emisburg) Hillsdown Loveland, Macleod Pakun (Victoria) Ranfurly (Waitefield) Saskarehewan—	()	2 5 2 2 1 0 13 5	5 7 1 0 2 1 2 7	2 1 5 11 5 0 8 27	3 14 9 1 3 6 0	4 1 21 6 11 2 15	10 2 2 2 2 4 14 2 6	5 11 12 29 5 0 7 22	0 0 0 3 0 8 3 12	31 62 62 31 31 62 93
Chaplin Crescent Lake Estevan Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca	4 0 0 0 7 0	2 0 6 7 2 0 7 3 0 2	0 1 3 3 0 0 0 3 0 10 1	5 1 1 6 6 0 0 3 3 6 3	0 6 12 4 13 0 9 0 0 0 0	8 9 24 22 24 3 32 0 3 16	0 3 1 1 14 8 8 0 7 6	16 10 4 18 16 28 8 20 1 15 5	0 0 1 0 11 0 0 0 0 0	31 31 31 62 93 62 21 62 31 31
MANITOBA—  Bereis River.  Brandon  Hillview  Moose Horn Bay (Aitkensville).  Morden  Oak Bank  Stony Mountain	14 5 7 9 11 5	6 9 1 12 3 1 6	5 5 11 3 0 0 3	9 5 2 7 4 3 4	16 2 0 5 1 2 10	3 24 27 11 15 5	7 11 1 2 10 2 3	1 21 44 7 10 13 6	1 11 0 6 1 8 0	62 93 93 62 62 31 60
ONTMO — Agincourt Alton Be trince Birnam Clinton Cottam Gravenhurst Lindsav North Bruce Orillia Owen Sound	5 17 5 22 3 19 9 9 16 4	24 6 2 6 8 7 6 10 17 1	12 7 1 9 10 12 7 5 8 1	4 2 4 3 4 0 16 8 0 2	2 16 10 14 11 14 11 9 23 5	14 3 3 1 3 4 2 11 5	5 37 2 3 9 6 13 6 15 5	25 5 18 4 12 0 9 15 9	2 0 48 0 0 0 20 20 20	93 93 93 62 60 62 93 93 93
Pont Clark	4	10	3	2	2	3	2	5	0	31
Scarboro Junction Stoney Creek Uplands	5 8	34 0	14 7	5 0	 0 13	11	9 23	15 I	0 9	93 62
QUEBEC — Abitibi	15 15 22 7 14	6 15 6 11 4	20 8 12 1 4	0 4 4 0 0	16 7 3 13 11	1 8 11 10 20	33 6 15 15 36	2 29 13 36 4	0 0 7 0 0	93 93 93 93 93
Cape Chatte. Cape Magdalen Chicoutimi	0	3	8 0	2 32	18	2 52	0 0	45 3	15 2	93 93
NEW BRUNSWICK - Dalhousie	0 7	1 4 7	8 0 5	1 4 2	() () 3	0 0 17	20 5 10	0 18 26	0 0 1	30 21 78
Nova Scotia – Kentville	1	1	1	0	6	5	14	3	0	31
Parrsboro Port Hastings Sable Island, B. Pt. Truro Whitehead	1 1 7	4 5 9	0 0	7 9 7	0 9	5 34 15	0 0 23	13 44 16	1 0 3	31 93 93

# MEAN PROFESTION OF PRIGHT SUNSHINF REGISTER D IN 1 VOIL HOUR OF THE TOAY IN THE MONTH OF MARCH. 142

							Hot	1.5 1.5	1050							
STATION.	 6 a m.	n n		E	E 7 E	П : н	N. C.	11 M M 1	E		11.4	E 4 5	11 d g	ä L	£ 4,	
Victoria		02	25	. 1 )	(1)	14	Fi S	7.1		7.1	7.1	69	15			
Salmon Arm		01	1,5	74	75	511	70	211	77	79	`	50	112			
Nanauno			25	53	:4	(1)	,76	70	7.1	~ I		7.4	14			
Vancouver		(12	15	63	07	7.7	75	~_:	*(1	54	71	**}	20			
Agassiz		0.2	4.3	59	70	17	72	7.0	77	76		46	(+)			
Tranquille		20	67	7.7	80	51	80	75	51	79	20	1.5	-1	0.3		
Summerland		18	50	1.1	69	72	77	76	7.5	77	67	59	0.9			
Kamloops.		£1 }	56	7.8	77	50	50	81	74		1,5	17	01			
Edmonton			66	87	87	87	80,	87	51	~1	71	19	01			
Lethbridge		10	.37	62	75	75	81	52	52	7.5	7.5	67	20	T		
Lacombe			.22	50	70	7.5	76	71	76	79	77	60	02			
Medicine Hat		T	12	7.7	18	71	75	7.1	7.5	11	(-)	1:	0.2			
Fort Dunvegan			17	37	55	70	71	76	7.0	70	1-1	52	02			
Fort Vermilion			21	55	^1	53	75	7.5	72	7:	65	35	[1]			
Battleford .		(:1	26	55	75	7.4	75	× .	7	~1	~1	36				
Indian Head			(1	23	4.4	54	65	7.3	76	71	6.2	36				
Moosejaw		63	18	37	64	7.2	74	69	67	17	661	35	02			
Scott		(5	24	41	6.5	76	79	79	*1	- 77	7.3	39	63			,
Rosthern			30	5%	7.5	54	×5	5.2	<u>~1</u>	76	7.5	66	1.2			
Brandon 🐹 🗴	06	19	47	67	79	\	79	73	65	62	13	2.3				
Winnipeg			25	11,5	75	74	711	75	72	71	4,1,	45	01			
Halleybury	T	25	54	.71	7.4	76	81	77	71	71	70	70	33	01		
Woo-Istock	T	.24	43	56	(.5	6,1	63	57	54	15	41	01				
Lindsay	T	09	39	57	(-9)	67	67	69	66	f;(1)	55	12				
Barrie		12	15	61	156	68	h?	hti	65	tit.	62	50	20	01		
Toronto		41	25	55	(Gt)	14	68	73	bh	62	52	17	16			
Kingston		07	40	51	.55	fili	70	416	61	50	49	29	0.2			
Ottawa		. 13	52	61	71	7.1	167	65	72	72	0.9	51	13			
Montreal	T	23	17	59	ħ5	Gr	68	tui	62	59	56	52	, 1911			
Cap Rouge		14	15	4 ~	5%	51	59	50	54	55	54	40	07			
Quebec		t: <b>1</b>	37	52	56	56	59	58	57	54	52	10	, (1)			
Sherbrooke	01	15	.37	39	57	60	55	57	57	55	1	40	20			
Fredericton		13	11	(9)	62	61	57	62	61	58	56	53	.26			
Charlottetown			-:0		44	58	. 59	50	\$10	35	11	40				

	Vietoria.	Salmon Arm.	Nanaimo.	Vancouver.	Agassiz.	Tranquille.	Suprimeriand	Kambope	Edmonton.	Lethbridge.	Locumbo,	Medicine Hat	Fort Dervegan	Fort Vermitton	Partiblord	Indem Bead	Moose law	765.11	Lostbern	Marchin	Minnipez	, Markey tary	Would tree!	Trailery	Barrio	Toronto	Nuc-tus	Contra 6	Montrest	Cap Borne	Queb	Shirt the Company	The learning	· Charlestectown
Registered duration in hours	197	229	217	234	208	251	223	228	241	231	201	1: 6	183		2: 6	(56)	1,1	150	223	uni.	300	211	1) 1	177	203	180	172	211	11.1	1+1	113	17.7	150	142
ercentage of pos- sible duration %	53	62	59	62	57	68	61	64	67	63	5h	52	50		56	40	15	51	63		54		1.	15	55	50	17	57		45	45	17	51	25
Difference from average %	+11		+24	_	+30	-	_	_	_	_	_	_	_		+ 7	+ 2				- 12			- 12	. 7	. 17	+ 9	. 7	+17	- 11		1		- 1	
Maximum percent- age in one day %	87	86	88	51	83	54	58	10	50	52	SE	51	90		83,	71	80	100	97	, ,	85			56	100	~ "	111				44			51 23
Date of maximum.	10	5	7	10	20	,	22	3	6	10	-1	į	1		10	1	10	ł	1	1	4	0	11	6	. 2	25	5	16			,	25	-	2.0
Number of days completely cloud- ed	3	I	2	1	2	2	2	3	1		1		5		1	22	1	1		2	1			2	4	3	1	2	1	-	f+	7	6	10

#### Auroras recorded:

- 1. White Shore Lake II.
- 2.
- 3.
- 4. White Shore Lake III.
- ō.
- 6. White Shore Lake IV, Fort Vermilion 111, Fort Qu'Appelle IV, Crescent Lake IV, Sion VI.
- Hillsdown III, Halkirk, Treherne IV, Oakbank II, Aitkensville III, Aweme II, Deloraine, Fort Vermilion III, Muenster III, Glenbryan II, Fort Qu'Appelle IV, Waitefield II, Big Creek III, Crescent Lake IV, Oliver, Prince IV, Campsie IV, Sion IV, Chagoness IV.
- 8. Hillsdown III, Halkirk, Treherne IV, Aitkensville III, Awene III, Schreiber IV, Kakabeka Falls IV, Deloraine, Haileybury IV, Fort Vermilion IV, Muenster IV, Melfort, Glenbryan II, Fort Qu'Appelle IV, Campsie IV, Sion IV, Chagoness IV.
- Halkirk, Pakan III, Kenora IV, Mistassini IV, Emsdale IV, Deloraine, Fort Vermilion IV, Waitefield III, Oliver, Sion IV, Chagoness IV.
- Pakan III, Treherne IV, Aitkensville IV, Madoe II. Birnam III, White Shore Lake IV, Oliver, Emsdale III, Haileybury IV, Muenster IV, Melfort IV, Fort Qu'Appelle IV, Grenfell, Sion IV, Chagoness IV.
- Aweme IV, Schreiber IV, Mistassini IV, White Shore Lake III, Muenster IV, Oliver, Sion IV.
- 12. White Shore Lake IV, Oliver.
- 13. White Shore Lake IV, Waitefield IV, Oliver.
- Oliver.
- 15. Haileybury IV, Fort Vermilion II, Muenster IV.
- 16. Fort Vermilion II.
- 17.
- 18. Fort Vermilion II.
- 19.
- 20.
- Halifax IV, Quebec IV, Winnipeg III, Treherme IV, "itkensville III, Aweme III, Schreiber IV, Lucknow IV, Clinton IV, Mistassini III, White Shore Lake IV.
- 22. Minnedosa III, Aitkensville IV, Cartwright IV, Wolfville IV, Crescent Lake IV, Sion II.
- 23. Mistassini IV.
- 24. Charlottetown IV, Chicoutimi.
- 25.
- 26.
- 27.
- 28.
- 29.
- 30.
- 31.

#### Thunder recorded:

- 1.
- 2.
- 3.
- 4.
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- s.
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- 13.
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- 15,
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- 18.
- 19.
- 20. Yarmouth, Kentville.
- 21.
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- 25.
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- 29.
- 30. 31.

#### FORECASTS FOR MARCH 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1149 These were divided as follows:—

			No.		Verifi	ED.	
	District.		Issued.	No. Fully.	No. Partly.	No. Not.	Per- centage.
Alberta			77	57	11	9	81 2
Saskatchewan			80	63	12	5	86 3
Manitoba .			80	62	16	2	87 5
Lake Superior			82	53	23	6	78 7
Lower Lake Region			106	86	17	3	89.2
Georgian Bay			106	82	18	6	85.8
Ittawa Valley			93	74	10	9	84.9
Upper St. Lawrence			93	78	11	4	89.8
Lower 8t Lawrence	· · · · · · · · · · · · · · · · · · ·		101	86	10	5	90.1
Gulf .			101	81	12	5	89.1
Maritime Provinces West			117	87	21	9	83.3
Maritime Provinces Esist			113	83	20	10	82.3
Total		-	1110	895	181	73	85.8

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, July 26, 1912.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Honthly Meather Review

VOL. XXXVI.

**APRIL**, 1912

No. 4

#### 1XTRODUCTION

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE

#### BRITISH COLUMBIA.

The mean temperature did not differ very mu h from the average, but warm, sunny days were of but infrequent occurrence, equable temperatures and frequent showers leading many observers to characterize the weather of the month as "cold and backward." Differences from average which exceeded 1° occurred in the southeast Kootenay and the Queer Charlotte Islands only, amounting to 2 above and 4 below, respectively.

#### THE WESTERN PROVINCES.

Heavy frost was of general occurrence on the 6th and also, locally, on the 26th. Except in the northern districts, temperatures of 60° or higher were recorded on a days. The mean of the month ranged between 2 and 4 above normal.

In all districts of Saskatchewan the temperatures decreased to 20 or lower on the 15th and 26th, and locally on the 12th, 27th and 28th, also. The warmest days of the month were, generally, the 9th and 10th when many stations recorded 70. At some places lying between the south branch of the Saskatchewan River and the International Boundary, temperatures exceeding 70 occurred on the 29th. The difference from normal was from 3 to 5 over the greater portion of the province.

On the 16th and 26th the lowest temperatures of the month were recorded in Manitoba and were in some cases below 15%. On the 4th and 5th occurred the highest readings, ranging between 70% and 78% Days upon which readings higher than 60 were registered averaged about 10. The mean temperature

differed from normal by from 2° to 5° above.

#### ONTARIO.

The first week was very cold throughout the province, but especially in the Districts of Algonia, Nipissing, Parry Sound, Miskoka, and in the Ottawa Valley, where a inimum temperatures for the first five days were in the neighborhood of zero; 2 to 7 below zero having been recorded at points in Parry Sound on the 1st and 4th, and 6 below on the 1st on the Nipissing watershed. On the 15th or 16th 70 or higher was registered, while on the 22nd and 26th maxima reached 60', but except on those days there was no really warm weather during April. The normal mean daily temperature for this season of the year was attained locally in the counties of the extreme southwest, but over " greater portion of the province, it lacked from 2 to 4%

#### QUEBEC

The first week began with moderate temperatures which rose steadily until the 7th and 8th, attaining a maximum of over 60°. But on the evening of the 8th there was a sudden dange to much colder conditions; the temperature decreasing 70° in less than 24 hours at White Shore Lake, and Mistassini, 50° at Chicontini, and 40° on the 8t. Lawrence. In the north the weather remained very cold till the 15th, but the last two weeks were moderately warm. Mean temperatures were from 1° to 3° below average along the 8t. Lawrence, but in the northern districts 4° or more below.

#### THE MARITIME PROVINCES.

In northern New Brunswick minima lower than 20—were registered on the 2nd, 5th, 9th, 11th, 13th, 14th, 21st, 27th, and in southern New Brunswick and Nova Scotia, on the 5th and 9th, and locally on the 14th. The warmest day was the 16th, when 60—was exceeded in the northern counties and 70° in southern Nova Scotia. In Northern New Brunswick the mean temperature was more than 2° lower than normal, while in southern Nova Scotia the deficiency was negligible. Elsewhere the difference was about 1.

#### PRECIPITATION.

#### BRITISH COLUMBIA.

On the North Coast, the Queen Charlotte Islands, the North Columbia River and, locally, on the Fraser River and North Vancouver Island, the precipitation was less than normal. Over the remainder of the province there was an excess, precipitation having been recorded on more than 12 days. During the first week snow fell at a few northern points, but elsewhere there was none.

#### THE WESTERN PROVINCES.

Precipitation was registered in Alberta on an average of 5 days, consisting largely of rain, the aggregate exceeding the normal by a small amount.

In Saskatchewan there was a general deficiency which was in some cases relatively large. Many districts reported no precipitation during the month, while at many others it was recorded on but 1 or 2 days.

The number of days of precipitation in Manitoba ranged from 3 to 10, while the total amount was in most instances about one-third of the normal in excess.

#### ONTARIO.

Except in the District of Nipissing and locally in the south-western counties, there was a general excess amounting to about twenty-five per cent, of the average. Snow was recorded on the 1st throughout the province and less generally on the 7th. Rain occurred on from 3 to 15 days.

#### QUEBEC.

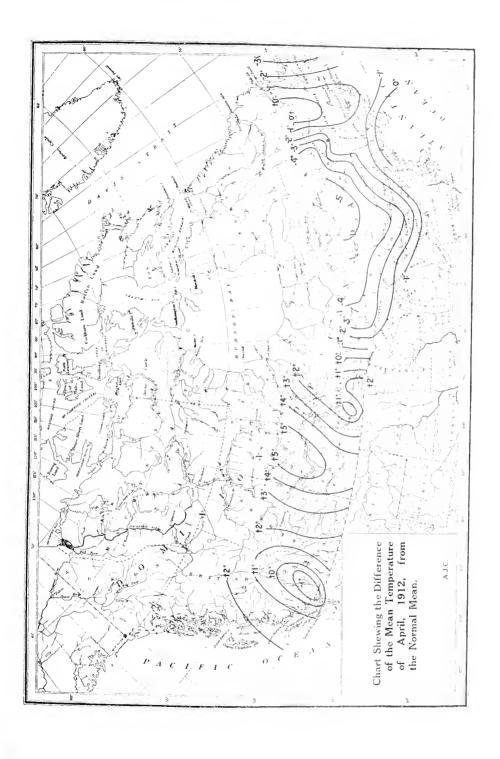
Stations on the Gulf of St. Lawrence reported a large deficiency, but elsewhere in Quebec the excess was the same as in Ontario

#### THE MARITIME PROVINCES.

In Prince Edward Island and locally in southern New Brunswick there was a small excess, but in Nova Scotia there was a general deficiency which was in some instances more than sixty per cent.

#### ATMOSPHERIC PRESSURE.

Low barometric pressure predominated during April with the result that the values of the mean pressure were subnormal in most localities, although in some parts of the Maritime Provinces the normal was reached. Kamboops, B.C., and Banff, Alta., with a negative departure of 0.17 of an inch showed the greatest divergence from the normal.



#### HIGH AREAS.

Eight areas of high pressure were traced. Five first appeared to the northward of Manitoba and three on the Pacific States coasts. They all eventually reached the Atlantic, two passing over Newfoundland, two off the Cape Breton coast and the remaining four off the Middle and South Atlantic coasts. The systems were in nearly all instances of quite moderate intensity, but usually attended by much cool weather.

#### LOW AREAS.

Nine areas of low pressure were charted. Three first appeared on the Alaskan coast, one over Vancouver Island, three in the Middle Pacific States, one in the South Pacific States and one in Southern Texas. Five of the areas passed over and four passed a little to the southward of the Great Lakes, seven eventually reaching the Gulf of St. Lawrence, while the remaining two moved out to sea off the Middle Atlantic coast. Several of the areas were of considerable energy, others again were only of very moderate strength.

## WINDS, APRIL, 1912

PROVINCES AND STATIONS.	Total Mileage.	Greatest Mileage in 24 hours	Greatest Mileage in one hour	Number of days of Gales.	Wind	trock Trock Winds.	GENERAL Direction
BRITISH COLUMBIA.							
Victoria Point Garry	<b>5</b> 690 <b>5</b> 300	359 126	14 31	1 1	15		SW.
A(BERTA.							
Edmonton	4891 4601	414 347	26 26		2.0	3	NIL NW. NI.
Saskatchewan.							
Battleford Swift CurrentQu'Appelle	7465 6416 8121	801 473 582	41 25 32	3 1	5	5 8 7	81. 8 81.,
Manitoba.							
Vinnipeg The Pas	8680 5751	515 347	5.5	2	1.5		N L.
Ontario.							
Port Arthur. Parry Sound Southampton. Foronto Woodstock,	6824 6471 9199 10446 8711	584 513 507 584 542	41 28 08 36 28	1 3 7	6 14 11 18	11 9 5	NW. 81. 8 NW. 8W. NW
QUEBEC.							
?uebec	10374	631	40	q	17	5	NE
MARITIME PROVINCES.							
Fredericton St. John Halifax Charlottelown Flat Point. Point Lepreaux	7004 8857 9139 5791 10112 10934	516 660 402 381 636 745	31 42 01 24 37 43	5 4 7 10	1 1 1 4 1 5 16 1 8	10 \$ 5 9 \$	NW. NW. NW. S. NW. SW.

## DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1912.

 t	A. D. martenana	Thermometers.

				1				Гемре	RATURE.				PREC	IPITATIO:	Ν.	тоге.			aj l	
STATION.	Latitude N.		Longitude W.	Elevation above sea level, in feet	Meun	Difference from average	Yr's Observations.	Bughest	Date	Lowest.	Date	Mean daily range.	Amount	Difference from average.	Heaviest fall in month.	s with .91 or	No. of fair days	No. of auroras.	No. of thunderstorme.	No. of fogs.
British Columbia—																				
S. Vancouver Island		,	0 /																	
Albern (Beaver Creek) Clayoquot Cowichia (Tzouhalem) Ladner Nanaimo Salt Spring Island. Sooke Victoria	49 49 48 49 49 48 48 48	15 11 25 05 10 50 41 21	124 49 125 47 123 42 123 4 123 37 123 20 123 44 123 19	300 40 170 125 25 85	$\begin{array}{c} 40 & 2 \\ 46 & 4 \\ 49 & 4 \\ 50 & 2 \\ 46 & 1 \\ 46 & 5 \\ 46 & 0 \\ 48 & 6 \\ \end{array}$	$ \begin{array}{r}                                     $	17 13 6 12 12 12 12 24	65 0 57 0 63 0 66 0 60 0 59 0 60 0 61 8	15 8 22 1 15 16 16 30 24	26 0 33 0 27 0 30 0 29 8 30 0 27 0 30 2	5 5 4-11 1 5 5	19 1 12 8 19 3 18 5 15 6 13 6 17 4 14 4	1 75 7 68 2 03 1 85 1 83 1 89 2 00 1 30	$\begin{array}{c} -2.81 \\ -0.69 \\ +0.03 \\ +0.15 \\ \hline -0.05 \\ +0.50 \\ \end{array}$	0 26 2 92 0 29 0 40 0 35 0 47 0 60 0 57	18 17 13 8 15 11 8 13	12 13 17 22 15 19 22 17			
N. Vancouver Island																				
Holberg Swanson Bay Triangle Island Winter Harbout (Quatsino)	50 50 50 50	39 37 52 32	128 18 126 53 129 5 127 40	680	41 4 42 9 45 1		4 3 5	60 8 62 0 59 0	17 30 17	33 6 32 6 33 6	3 3 16	9 6 11 4 14 2	12 76 3 91		5 40 1 07	19 15	11 15			
Lower Fraser River														i						
Agassiz Chilliwack Hope New Westminster North Nicomen Pemberton Hatchery Ruskin (Stave Falls) Steveston(Garry Point) Vancouver	49 49 49 49 49 50 19 49	13 12 20 16	122 33	52 21 330 59 125 136	46 2 47 7 7 49 0 47 2 45 2 46 5 46 0 40 2 49 7	- 0 7 - 1 1 + 0 6  - 0 4 + 0 7	1 4	63 0 64 0 70 0 62 0 65 0 67 5 66 0 59 5 62 5	15 1 16 15-16 26 16 21 16 2 1	29 0 31 0 32 0 28 0 30 0 25 0 27 0 31 1	3 5 15-30 5 5 5 12-45 5 5	20 8 15 5 22 9 15 2 16 6 18 9 18 7 15 5 12 5	4 26 2 13 10 44 4 26 3 19 1 10 2 89 2 42 3 02	+0 06 -1.44 -1.49 -1.83 -1.83 -1.65 +0.57 +0.88	0 50 2 07 0 77 0 54 0 35 0 74 0 61	12 16 21 12 15 9 13 12 13	18 14 9 18 15 21 17 18 17	1		
Upper Fraser River											1									
Babine Lake Barkervillo Chilcotin (Big Creek) Fort St. James (Stuarts Liske) Hydraulic Quesnelle	55 53 51 54	02 40 28	121-12	4180 3100 2280 1700	35 5 38 9 36 4 48 6 43 2		19	54 0 59 0 57 5 65 0 65 0	29 21 29 29 18-22	14 0 12 0 13 0 20 n 18 0	4 5 15 5	15 9 23 5 19 6 26 5 26 1	2 25 1 56 1 04 1 13 0 88	+0 21	0 65 0 29	7 7 8 7	23 23 23 23 22 23	1		
Okanagan Valley																				
Fairview Hedley (Nickel Plate) Reremens Okanagan Mission (Kelowna) Pentiction Frinceton Summerland Vernon (Coldstream Ranch) West Kootemry	49 19 49 49 49 49 50	35 15 52 29 29 57	120 10 119 35 119 29 119 35 120 29 119 0	1650	46 8 30 7 49 7 47 8 47 7 44 6 47 3 47 J	+15	5 15 - 5	71 0 47 0 67 0 64 0 68 0 66 0 65 0	2 9 2-8 2-9 2 8 8 2 9-21	26 0 14 0 33 0 30 0 21 0 20 0 32 0 27 0	2 5	20 4 16 0 17 3 21 0 24 6 26 3 19 2 21 8	1 36 21 80 21 81 1 13 1 13 1 15 1 15 1 61 1 10	+0 66	0 40 0 46 0 47	7 9 9 8 7	23 21 21 22 22 23			
Bowell . Crawford Bay Fruitvale Grand Forks . Greenwood Kash . Nakusp . Needles . Nelson Rossland	49 49 49 49 49 49 49 49	45 9 20 52 1 52 1 40 2 21	116 45 117 31 118 27 118 49 117 6 117 50 118 9 117 21	1752 1390	47 ( 47 1 45 1 46 5 47 5 43 1		1 2 3 1 3 9 8	63 0	8 12 15 21	27 0 27 0 28 5 27 0 29 0 28 5	1 6 6 6	24 2 24 3 	0 84 1 31 0 93 0 95 0 70 1 38 2 85		0.34 0.42 0.30	14 9 12 3	16 21 18 27 18		4	
East Kootenay																1				
Akamma Cranbrook Tobacco Plams (Elko) Wilmer	\$1   41   50	1	115 .5	2684	14 ! 46 S	+ 1 :	17 3	71 I	9 11 10 11	18 0 21 0 18 0	6		0 35 1 24 0.35	+02	9 0 85 0 26	6 3 2	24 27 28	١		1
Thompson River								1												
Enderby Kamloops Nicola Lake Salmon Arm (Exp. Farm) Salmon Arm Tranquille	50 50 50 51	) 4i ) 4i	120 29 120 39 119 35	1245 2120 1152	49 ( 43 9 46 9 46 9 48 8	- 0 :	0 20 5 17 1 11 4	68 0 05 0 63 0 67 0 68 0	8-24 21	26 0 21 0 28 0 29 0 27 0	5 5	22 8 23 4	1 36 1 50 1 05 1 55 1 23	+0.9	4 0.90 0.42	$\frac{1}{\epsilon}$	25 24 16	Ш.,		2 .
North Columbia River																				
Galden Glueier Revelstoke	51   51   51	13	117 29	4072	44 0 37 1 15 4	2	9 15 12	67 0 52 0 65 0	20	24 0 17 0 26 0	22	23 7 13 1 22.2	0 78 1 78 1.93	3 -1 1 3 -0 1	0 45 7 0 50 97 0 30	) [1]	119	3		

## DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1912.

			*Stati	ons not	urni-ha	lwi	th Ro	gisterin	t Thern	r fuele	~ 1				••		12,		1
							Тт. м	PILATU	RE			Pat	HITTA	TION	J.				
STATION.	Latitude N	Loupitude W	Elevation above sea level, in feet.	Mean.	Difference from	Ars Observations	Highest	M 3.2.5 a.e.	Lowest	Date.	Mean darly range	Amount	Difference from	Derviest fall in month	Days with 0 Lor mor	No of fair days	No of auroras	No of thunderstorms	No of fore.
BRITISH COLUMBIA-Con.																			
North Coast  Bella Coola Khtada Prince Rupert Stewart	52	7 0 7 40 126 54 18 130 18 1 130 1	150 170 215	45 3 43 1 40.0	+ 0 2	13 3 2	63 0 61 5 64 0	30 29 9 30	27 0 30 0 25 0	16-17 4.5 23	13.8	1 76 3 56 2 52	-0 03 -	0 49 2 32 0 40	15 19 12	15 11 18			1
Queen Charlotte Islands  Ikeda Bay Massett	52 53	17 131 7 55 132 9	5 30	45 0	<u> </u>	15	57 U	19-23	32 0	÷	1:6	1.63	3 26	0.23	19	11			
Yukon Boundary Atlin	59 (	35 133 38	2240 *	33 7		7	54 0	20	N 5	4	15.4	0.26		0.23	3	27			
Yeron— Carcross Dawson White Horse	60 64	11 - 134-34 4 - 139-29	2171 1200	33 6 31 0		5	57 0 55 0	23 19-27	10 0 0 0	5	19 9 27 6	0.80		0 30	ti	24 1.			
Alberta— N. Suskatchewan River																			
Coronation. Daysland Edmoaton Ending Gift Edge. Halkirk (Einsburg) Loveland Pakan Victoria Ranfurly (Waiteheld) Wetaskiwin	53 5 52 5 52 5 52 1 52 1 54 53 5	52 112 17 33 113 30 0 112 0 59 110 43 17 112 10 80 111 59 0 112 31 29 111 38 113 23	2158 2795  2000 2480	44 8 37 4 43 5 40 6 44 I 41 9 41 0 41 1	+ 3 2	1 5 25 2 3 2 10 8	69 0 65 0 69 5 69 5 69 0 63 9 65 0	10 29 2 10 10-29 10 18 2	12 0 16 0 23 0 15 2 26 0 18 0 13 9 13 4	22 6 6 6 14 5-23 6 20	26 3 23 2 26 0 25 5 27 5 26 3 27 6 27 0	0.31 0.51 1.57 0.76 0.62 0.10 0.91 0.52		0 09 0 29 0 35 0 28 0 10 0 30 0 19	5 3 10 5 	25 27 20 25 23 24 24 24	3	1 2	1
The Red Deer River																			
Alix Brooks Delis Dudsbury Eckville Harmattan Hillsdown Lacombe Red Deer Threehils Creek	50 3 51 3 51 4 52 2 51 4 52 1 52 5 52 5	24 113 10 34 111 51 38 112 25 80 114 8 23 114 22 45 114 23 46 113 49 50 113 11	3300 3500 2806 2783 2806	43 2 47 1 41 8 42 5 38 8 42.9 41 9		7 1 10 5 9 5	75 0 78 0 63 5 66 0 64 0 68 9	26 14 5 2 7 3 23 7	15 0 21 9 22.0 20 0 11 0 18 9 17 9	6 20 6 6 6	25 1 33 4 23 9 23 7 27 1 24 9 28 9	0 99 9 74 0 45 1 62 1 15 1 23 1 29		0.38 0.57 0.16 0.77 0.40 0.69 0.55	6 2 5 6 6 10 9	24 28 25 24 24 20 21	2	2	. 1
The Bow River	51	2 114 2									31.4			0.4					
Calagry, Cardston Farman (Playle Creek) Gleichen High River High River Lawrence (Parkland) Lethbridge Macleord Medicine Hat. Oyen Pincher Creek, Sundial	49 1 50 5 50 3 50 1 49 4 49 4 49 4 50	2 113 18 80 112 54 15 113 53 6 113 26 12 112 51 3 112 51	2952 3394 2961 3128 2161 3750	41 9 41 7 44 4 46 5 41 4 48 7 42 1	+ 2 0 + 4 1	25 112 9 5 11 5 17 28 1	50 0 50 7 66 0 55 0 72 h 75 0 71 0 69 0 74 0 70 1	9 210 210 15 10 × 10 10 10 10 10	14 0 10 6 17 0 15 0 12 0 18 8 17 4 19 0 25 0 18 2	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	21 6 7 X 4 0 0 7 8 4 X 25 25 25 25 25 25 25 25 25 25 25 25 25	2 05 1 35 1 63 2 30 0 94 0 45 0 20 6 67 0 94 0,51	· 1 36	0 4c 0 5c 1 60 1 50 0 59 0 14 0 08 0 24 0 60 0 40	9 623486743 3	21 X 27 6 22 4 23 6 27 27 27	1	1	
Rocky Mountains	00	0 112 34		33.1	_	1	11 11	. 111	1- "										
Banff	51 I 49 4		4542 4225	39-2	+ 2 6	17	59-1	10 '	17 0	6	20-6	1 (5	+ n 29	0.48	13	17			
Athabasca Landing	54 4 61 54 3 54 1	9 1143 52   3 114 19	1650	39 7 21 0 40 3 41 0	-	9 3 4	65 0 54 0 66 4 66 0	17 2 2 2	$^{21 \ 0}_{-15 \ 0}_{-15 \ 0}$	17 75 6 26 10	21 0 18 7 25 1 34 2	1 14 0 19 0 73 0 70		0 68 0 19 0 36 0 55	1 1 2	26 29 26 28			
Peace River Dunvegan Fort Vermilion Fort Vermilion (2) Peace River Crossing Spirit River	55 5 58 2 56 13 55 49	5 H17 H5	1305	34.7 36.3 39.7		7 5	56 Q 10 5 64 0	17 19 28	10 5 11 0 17 0	15 11 0	27.1	0 45 0 73 • 95		0 40 0 30 0,50	2 5 1	28 25 26	;	ı	

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1912.

							TEMP	ERATURE	:.			Pre	CIPITATIO	ON.	more.			.80	
ZOHYTS	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Defference from average.	Yr's observations	Highest.	Date.	Lowest.	Date.	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month.	Days with .01 or m	No. of fair days.	No. of Aurotas.	No. of thunderstorms	No. of fogs.
Saskatohewan-																			
Qa'Appelle Rever Brandshew Brownfull (Grenfell) Brown flee Crescent Lake Estevan Fort Qu'Appelle Habbard   Danname Hamborth Hambo	50 25 50 25 50 45 50 45 50 50 50 50 50 50 50 50 50 25 50 25 50 25 50 25 50 30 5	103 4 103 24 105 9 105 9 105 23 103 40 102 2 1 105 35 1 105 35 1 105 35 1 105 35 1 105 4 1 105 4 1 104 14 1 104 14 1 104 9	1960 1957 1658 1858 1924 2064 1759 1884 1870 1879 2115 1690 1885	30 9 38 6 41 5 41 4 36 3 30 6 40 6 40 0 36 8 44 0 40 5 40 6 40 6 40 6 40 6 40 6 40 6 40 6 40 6	+ 2 8	18 7 8 1 6 5 1 1 1 1 1 1 1 1 1 1 1 1 1	69 0 65 1 69 0 74 1 62 0 57 0 68 0 78 0 78 0 68 0 17 0 68 5 59 0 67 0	10 3 9 9 10 16 30 21 29 9 3 3 3 9 9 23 29 9 9 9 9 9 9 9 9 9 9 9 9 9	12 0 16 9 22 0 16 8 12 0 8 0 11 0 12 0 10 0 10 0 17 0 17 0 17 0	15 16 15 6 15 27 15 5 15 15 26 14 26 28 11	29 3 26 2 20 7 29 0 24 3 30 1 27 0 23 3 26 4 23 27 29 3 26 4 23 27 29 3 26 4 27 3 29 4 20 7	1 01 1 03 0 99 0 68 0 10 2 28 0 10 0 70  0 41 0 20 0 46 0 18 0 68 0 19 0 49 0 19 0 49 0 19 0 49 0 19 0 40 0 50 0	-0 07	0 24 0 52 0 19 9 10 0 .51 0 10 0 20 0 18 0 20 0 18 0 28 0 28 0 22 0 22 0 22 0 19	9 7 3 9 1 1 8 1 7 7 5 9 4 4 8 1	21 23 27 21 29 22 29 23  25 29 27 29 27 29 22 29 27 29 27 29 29 27 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	2	i	
Yorkton S. Saskatchewan River	51 11	102.29		33 S		3	63 ()	5-11	19.0	27	21 5	0 42		0 18	3	27			
Chaplin East End Kelvinhurst Larchmount (Ghenbry in Meple Creek (Divide) Oliver Rathmulten Switt Current.	50 26 40 33 49 23 49 5- 49 55 51 40 51 20 50 20	108 49 1 109 29 1 107 27 1 109 28	2202 3500 . 2430	42 5 36 7 41 4 40 7 40 6 41 2	+ 0 9	25 5 2	75 0 63 0 69 0 71 2 70 0	20 30 30 18-27 30 29	11 6 10 0 15 2 12 0 15 0 20 0	13 6 26 26 26 15	34 4 20 5 28 7 28 9 27 3 25 3	0 21 0 44 0 41 0 0 00 0 06 0 42	-1 03 	0.10 0.15 0.00 0.06	2 9 6 0 1 8	28 21 24 30 29 22	5	1 1	
N. Saskatchewan River			i																
Battleford Lloydminster Luseland Omon Luke Prince (Mao(a) Scott (Ex. Farm) Waseca	52 43 53 19 52 3 53 53 51 6 51 59 53 6	8 110 0 5 109 34 2 109 59 5 108 20 1 109 30	1620   1700	43 0 38 6 40 1 36 5 39 5 40 7 39 8	+ 5 0	22 7 5 3 5	70 0 65 0 69 0 75 0 67 0 68 5 64 0	29 4 29 1 6 29 3–10	20 0 12 0 11 0 10 0 14 0 16 5 12 0	26 6 26 26 7 29 15 6	26 1 25 0 27 3 23 4 31 0 27 2 26 5	0 03 0 45 0 06 0 00 0 08 0 00 0 72	-0.38 	0 02 0 45 0 05 0 00 0 08 0 00 0 63	2 1 2 0 1 0 2	28 29 28 30 29 30 28	4		i
The Saskatchewan Forks																			
Chagoness Duck Lake Melfort Prince Albert Rosthern Saskietoon	52 3. 52 5- 52 40 53 10 52 40 52 13	104 30 106 0 106 20	1432 1657 1571	39 4 37 1 38 8 39 2 41 7	- - + 4 6	1 3 2 11	63.0 63.0 64.5 63.0 69.0	9 9 11 10	18 0 13 0 16 0 16 8 13 0	26 26 15 15	24 9 24 7 25 3 24 8 25 8	0.45 0.47 0.25 0.67 0.06	-0.31	0 28 0 28 0 36 0 06	3 4 1	27 27 26 29	2		· · · · · · · · · · · · · · · · · · ·
Lower Saskatchewan River																			
Lost River Cumberland House				37 2			67.0	19	13 0	26	25.5	1 14		1.01	3	27	::		
Manitoba Qu'.1ppelle and Assine																			
boim Rivers																			
Aweme (8) Alban-) Rurle Brandon Carberty Carberty Capters River Hellview Municlosa Ninette Ninet Ninette Darrage la Pravia Burlen Burlen Lipe-tone Lorrage la Pravia Lipe-tone Treberne Virlen Vir	19 40 59 29 19 50 49 50 49 30 49 30 19 50 49 11 49 50 49 50 40 40 40 40 50 40 40 40 40 40 40 40 40 40 40 40 40 40	1 101 1 1 99 57 2 99 20 1 98 0 3 69 3 5 100 33 5 100 33 5 99 50 1 99 51 1 101 5 1 100 5 1 100 5 1 100 5 1 100 5 1 101 20 2 101 20	1180 1703 1176 1258 872 1232 1400 1699 1363 1649 1531 1400	40 7 39 7 39 7 39 4 39 2 39 9 42 3 38 1 36 8 42 4	+ 4 9 + 0 4 + 1 3 + 1 7 - 0 6 + 1 7 - 1 4	27 24	72 5 74 9  70 0 66 0 67 0 69 0 68 0 72 0 63 0 74 0 62 0 73 0 72 0	4 2 5 4 4 22-24 30 10 11 5 4 4 4 3	13 0 14 0 16 0 16 0 14 5 19 0 22 7 10 0 11 0 15 0 14 0 12 0 18 0	$\begin{array}{c} 16\\ 16\\ 16\\ 27\\ 2\\ 20\\ 16\\ 16\\ 16\\ 2n\\ 2n\\ \end{array}$	25 7 25 2 25 2 20 6 23 6 18 2 16 1 26 2 19 5 22 4 23 9 21 1	1 33 1 56 1 70 0 70 1 26 0 13 2 06 1 73 2 47 2 78 0 45 3 56 0 45	+9 22 +0.81  -0 62 +0.38  +0 95 -0 47	0 44 0 60  1 30 0 40 0 81 0 05 0 90 0 55 1 20 1 47 0 15 1 20 0 25	10 7 3 5 3 3 5 5 3 7 9 2	20 23 27 25 27 25 27 25 27 25 27 25 27 25 27 25 27 28	1	1 1	
The Real Privil Almissippi Morden Oak Bank Stony Mount an Wannipeg	49 14 49 11 49 57 50 40 49 53	98 6 96 42 97 14	978 800 803 760	40 6 39 5 39 4 39 1 41 2	$\begin{array}{c} +\ 5\ 1 \\ -\ 0\ 6 \\ +\ 0\ 1 \\ +\ 2\ 6 \end{array}$	10 8 26 30 36	78 0 77 0 72 0 74 0 75 1	4 5 4	13 0 12 0 13 5 14 0 17 6	16 27 27 2 2 2 2	24 1 22 0 19 4 25 9 22 4	3 00 1 60 2 91 2 35 2 25	- +1 38 +1 24 +0 71	1 25 6 95 1 27 1 00 0 86	8 5 7 5 9	22 25 23 25 21		1 1 1	::

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1912.

\*Stations not furnished with Registering Thermometers

							7	Гемре	RATURE				Pak	HITATI	on.	re.				
STATION.	Latitude N.		Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations	Highest	Date	Lowest.	Pate.	Weam daily range	Amount	Difference from average.	Beaviest fall in month,	Days with .01 or more	No of fair days	No of auroras.	No of thunderstorms	No of fogs.
Manitoba-Continued																				
Dauphin Lake and River Berens River Dauphia Moose Hora Bay) Aitkens-	£2 51	18 8	97 23 160 2	716 957	41 3 37 2	-	5 2	73 0 63 0	4	15 U 12 U	16 12	24 4 20 4	1 ×1 0 30		0 98 0 20	5 2	25 28			
ville) Lake Winnipegosis	51	15	99 33		36 2		2	nu 5	5	12 2	2	19.8	1.63		0.59	9	21	7		
Le Pas Swan River	53 52	49	101 15 101 15	860 1112																
Ontario-																				
The Lake Superior Districts																				
Rainy River Kenora	49	48	94 32	1102	36.3	-0 1	13	60.0	4	15 0	26	17.9	1-67		1 06	5	25		1	
Thunder Bay Kakabeka Falls. Port Arthur Schreiber	48 48 45	20 27 50	89 26 89 12 87 15	912 644 933	33 5 34 4 32 7	0 7 1 0	4 31 12	64 4 56 0 68 5	24-25 6	$\begin{array}{c} 3 & 4 \\ 10 & 0 \\ -3 & 2 \end{array}$	5 8 3	24-1 18-9 24-4	2 95 2 59 3 11	- 0 87	0 75 0 94 0 83	10 13 10	20 17 20	1	1	
Algoma Bruce Mines Copper Cliff Porcupine Providence Bny	46 46 48 45	18 30 29 40	83 55 80 59 81 18 82 14	595	36 2 35 4	1 1	13 5	59 5 59 5 55 0	15 29 21-30	$-\frac{2}{5}\frac{0}{0}$	1 3	20 2 15 9	2 20 1 72 1 64	=	0 53 0 50 1 15	10 5	20 25 25 25 22		2 1 3	
White River.  Nipissing Cochrane Haileybury Montreal River.	48 49 47 47	35 2 29 8	85 16 81 0 79 39 79 29	946 687	29 3 35 5 35 2	-3 0 -2 s	23 2 19 2	62 0 62 0 68 6 68 0	5-15 15 15	-16 0 - 2 0 1 2 1 0	3 1 4	26 0 29 3 23 1 28 1	4 22 1 64 1 31 1 77	- 2 42 -0 24	0 39 0 35 0 58	5 7 97	23 21 23	1 6	1 2	
Upper Ottawa River																				
Lake Talon (Rutherglen) Stonechff (Rockliffe)	46 46	15 9	74 48 78 6	557	36 2 35 5	-2 5 -3 9	16 34	69 0 69 0	15 15	- 6 0 - 7 0	1	24 3 27 5	1 31 3 10	1 12 - 1 46	0 44 0 96	77	23 23	1	2	:
Upper St. Lawrence and Lower Ottawa Rivers Almonte. Kingston . Montague. North Gower . Ottawa Renfrew	45 44 45 45 45	12 13 56 8 26 26	76 13 76 29 75 57 75 43 75 42 76 39	390 285 	39 0 38 6 38 0 38 8 38 8	-3 0 -3 0 -3 9 -3 7	3	66 7 63 8 69 5 66 0 60 0	15 15 13 15-26 15	5 h 17 4 6 5 5 5 9 0	1 4 4 1 1	200 5 16 9 24 2 — 19 3 24 4	1 94 3 27 2 91 - 3 14 1 52	+ 0 00 + 1 28  + 1 26 + 0 03	0 98 0 90 0 97	10 15 7 	20 15 23 	1	1 3 1 1 2 2	
Georgian Bay Counties Barrie Beatrice Coldwater Coldwater Gravenhurst Huntsville Widland Owen Sound Parry Sound Ronville Shelbarne	44 45 44 44 15 44 14 15 45 45	23 8 38 31 54 19 44 37 34 19 15	79 41 79 20 70 40 80 2 79 20 79 8 79 53 79 24 80 55 80 0 78 57 80 47 79 25	750 775 597 635	36 7 37 5 39 4 36 1 37 2 38 5	-1 3 -3 1 -0 3 -2 8 -1 1 -1 7	25 16 41 6 5 17 36 5 3	66 0 71 0 73 0 67 0 69 0 68 0 68 0 167 0	15-26 16	4 0 6 8 8 0 4 0 0 0 	1 1 3 4 1 1 - 3 3 3 3	23 6	2 40 1 34 0 84 2 43 1 28 1 18 2 34 0 70 2 32	-0 69 -0 16 +0 82 	0 91 0 40 0 65 0 50 0 62 0 49 0 42 0 54	8 5 6 9 6 5 10 5 9 9	22 25 24 21 24 25 20 25 21 21	1	2 2 2 1	
Uplands	45	48	79 25		34 6	-4 1	24	66 0	15	- 7 0	1	27.7	1.04	- 1 -	. 1 00	,	31			
Birnam Clinton Goderich Lucknow, North Bruce Point Clark Saraia Southampton	43 43 43 43 41 44 42 44	2 32 45 56 23 5 59 30	81 55 81 37 81 41 81 30 81 25 81 44 82 24 81 21	uns	44 4 40 1 40 6 39 8 40 2 47.1 40 2	-0 8 -0 1 -1 1 -1 5 +3 3 -0 8	28 24 17	70 0 71 0 69 7 65 0	15 15 15	22 4 14 0 16 5 8 0 18 0 22 0 15 1	4 3 3 3 3 3	19.5	3 98 1 95 1 82 2 52 3 01 0 00 2 1)	+ 0 38 + 1 50 1 53	0 49 5 0 61 0 50 5 0 00	9 13 13 15 10 0 12	21 17 17 15 20 30 18	1 2	3 3 2	
Lakes 8t. Clair & Erie, Niagara Peninsula																				
Chatham Cottam C	42 43 44 42 42 42 43 43 42 42 42	13 35 59	82 12 82 45 76 36 82 35 80 55 80 13 79 17 79 47 82 2- 79 17 83	585 592 625 592 347	41 0 42 6 45 2 43 1 45 9	+0	24 3 1 31 2 31 5 37 1 21	63 (63 ) 63 (78 ) 74 (78 )	1 4 21 15 1 15 1 15 1 15 1 15 1 15	23 0 25 0 22 0 23 5 20 5 21 0	3	25 2 17 5	2 86 82 82 82 82 82 82 82 82 82 82 82 82 82	0 4 0 5 0 5 0 5 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 1 1	8 0,72 0 85 9 1 20 1 25 3 1 00 7 1 17 1 1 00 4 1,05	13 1 3 1 15 1 16 2 17 1 16	27 22 12 12 12 13 15 18		1 1	

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\* Stations not furnished with Registering Thermometers.

								Темр	ERATU	ici:			Pre	TPITAT	IoN	more.			oś.	
STATION	Latitude N.	Longitude W		Elevation above sea level in fact.	Meam.	Difference from average.	Yr's Observations	Blighest.	Date.	Lowest	Date	Mean daily range.	Amount	Difference from Average.	Heavest fall in month,	Days with 01 or me	No of far days.	No. of auroras.	No. of thunderstorms.	No. of fogs.
ONTORIO-Continued-																				
West-Central Counties	0 /	0	,																	
Alton Brantined Elom . Guelph Loudon . Parts Stratford . Woodstock	43 5 43 10 43 4 45 3 42 5 43 13 43 2 43 3	955757 15757 15757	21 24 16 13 25	1259 750 1274 1050 808 849 1191 980	43 2 40 5 11 7 41 1 41 4 40 2 42 2	$   \begin{array}{r}     + 0.1 \\     + 0.5 \\     + 0.1 \\     + 1.3 \\     + 0.5 \\     - 0.9 \\     1.1   \end{array} $	32 16 21 29 23 46 39	75 0 71 0 70 0 74 5 75 0 70 0 70 0	15 15 15 15 15 16 16	22 0 13 0 17 ( 20 0 21 0 14 0 18 0	2 3 3 5 3 3	18 8 24 2 18 5 20 7 49 0 18 1 19 5	2 65 1 86 0 38 3 28 2 36 3 29 2 50	$\begin{array}{c} +0.82\\ -0.24\\ -1.38\\ +0.96\\ +0.46\\ +0.41\\ -1.62\\ \end{array}$	0 58 0 53 0 20 0 58 0 64 1 82 0 66	9 11 6 8 9 5	21 19 24 22 21 25 19		3 2 3	1 2
Lake Ontario Counties																				
Ameount Amora Bloomheld Hamilton Lorne Park Scathono let, Taronto 1s (Lakeside Home) Uxbridge	43 47 43 5 43 5 43 1 43 5 43 1 43 4 14 4	7 70 9 77 6 79 2 79 3 79	16 24 21 54 37 13 21 21	590 886 260 303 545 350 886	40 2 39 7 39 1 42 9 41 6 38 6 41 8 39 2 39 2	- 2 0 - 4 8 - 0 2 - 1 3	17 4 14 36 4 2 72 8 8	63 5 71 5 69 6 74 0 69 0 70 0 71 0 58 0 69 0	15 16 16 15 7 15 15 15 15	17 2 14 0 17 0 23 0 16 0 16 0 19 2 20 0 13 6	3 1 3 3 3 3	18 0 20 5 16 8 16 0 18 4 16 2 16 5 13 3 17 9	2 76 1 94 1 63 1 10 1 76 2 18 2 47 1 98	+0 49 +0 05 -0 70 -0 34 -0 34	0 65 0 75 0 65 0 73 0 78 0 62 0 63 0 56	14 10 8 2 8 7 15 12	16 20 22 28 22 3 15 —		2 1 2 2 1 3 2	4
East-Central Counties					38 1					•		02.2				1			1	
Baneraft Hadiburton Kumount Lakelneld Lin bay Madoc Peterboro' Uss.	45 44 4 14 2 41 2 41 2 44 3 44 1	15555	50 25 38 15 45 20 19	1050 920 850 872 575 722	37 S = 38 6 30 0 38 6	$\begin{array}{c} + & 0 & 4 \\ - & 3 & 6 \\ - & \\ - & 2 & 4 \\ - & 3 & 2 \end{array}$	21 23 13 29 8 12	68 0 67 0 	15 30 — 15 15 15 15	$\begin{array}{c} 5.0 \\ 1.0 \\ - \\ 0.0 \\ 11.0 \\ 10.0 \\ 0.0 \\$	3 4 4 1	23 7 27 7 — 20 7 20 0 19 5	2 65 2 79 2 62	+0 95 +0 76	1.00 6 89 0 56 0 75	9 13 9	24 21 17 21		2 3 2	
Querec-																	İ			
Middle St. Lawrence	45 1		26		37.7	- 1.8	31	65.0	07		,	20.1					_		1	
Brume Cap Rouge D'I faelt M attend Quebec, Ste Anne de Bellevne Shawbirder Shawbirder Shewbirder Shewbirder	45 1 46 4 45 3 45 3 45 3 1 46 4 45 2 45 5 46 3 45 3	6 71 5 71 0 73 8 71 7 73 4 74 4 72	15 21 35 13 59 3 43	678 896 187 296	37 4 38 0 39 3 34 6 37 7 21 0 37 8	- 1 8 - 2 2 - 2 5	31 2 34 37 8 9	68 5 63 5 62 6 71 5 63 0 68 3	555 555 55 55	6 0 5 2 13 0 14 1 6 4 5 5 2 0 10 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 1 18 5 17 2 17 2 18 1 19 2 23 1 19 6	2 98 1 24 3 09 3 13 2 81 3 02 3 70	+0 77 +1 10 -	1 02 0.98 0 63 0 86 0 65 1 42 1 45	8 13 13 10 8 12	22 24 17 17 20 22 18	2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 1 2
Lower St. Lawrence & Gulf			i														İ			
SAnticesti, E. Pt. Anticesti, S. W. Pt. Anticesti, W. Pt. Brequet 'Cape Chattie 'Cape Magdiden Eather Point	49 5 18 2	2 64 5 68 6 66 6 65	42 32 53 45 20 19	30 30 90 20	25 9 33 6 30 6 31 4 32 2	- 1 3 - 3 8 - 2 2 - 1 5	27 30 29 20 30 34	35 0 38 0 57 0 54 0 70 0 58 0	7 7-27 7 27	15 0 15 0 15 0 15 0 15 0 13 0	1-4 1 2 1 1		2 59 3 13 1 36 0 31 1 77 3 48	-1 63 -1 14 -1 03 -1 52	0 90 0 40 0 20 0 45 1 27	11 8 3 9	25 19 22 27 21 19	1		8 7 2 3 3 2
Lake St John			,														-	١.		
Cheontini Cheontini (2) Lake Edward La Euque Mistassini Roberyal	48 2 47 3 17 0 48 5 48 3	5   71 9   72 7   72 4   72 1   72	15   48   15   16	150 1333 520 360 352	30 5 28 4 30 7 26 6 29 8	— <u>1</u> 5	33 2 3 1 1 6	65 0 57 9 63 0 58 0 59 0	26 8 27 7 28	$ \begin{array}{r}  -20 \\  -155 \\  -60 \\  -150 \\  -20 \end{array} $	1 1 1 9 3-4	21 1 24 2 25 2 24 6	0.68 2 68 3 57 1 02		0 40 0 90 1 60 0 39	6 7 4	26 24 23 26	5	1	2
The Northwestern Districts			1																	
Abitibi Minouan Crossing Weymontachingto White Shore Lake	48 3 47 5 48 1	1 73	22 . 50 43		$\begin{array}{c} 28 & 0 \\ 25 & 7 \\ 21 & 0 \\ 24 & 6 \end{array}$	- 4 <del>1</del>	16 1 1 1	58 0 63 0 55 0 68 0	5-25 27 27 16	$\begin{array}{c} -10 \ 0 \\ -27 \ 0 \\ -21 \ 0 \\ -26 \ 5 \end{array}$	I I 8 I 7 9	25 6 21 8 24 7 29 5	$\begin{array}{c} 1 & 00 \\ 3 & 22 \\ 3 & 07 \\ 1 & 76 \end{array}$		0 22 0 80 0 97 0 56	6 7 7 9	24 23 23 21	6	· · · · · · · · · · · · · · · · · · ·	1  2
The North Shore																				
Clark · Cav	50 D	1 66	25		25 0			16 0	25	- 5 H	2	20 4	1.74		0.39	10	20			
New Britishick -																				
Chatham Dallousis Liedentetin GrandMacan Moneton Fount Lepicoux St John St Stephen Sussex	47 3 48 5 45 5 41 4 46 5 45 6 45 1 45 1 45 1 45 3	1 66 : 7 66 : 7 61 : 1 66 :	29 22 36 46 45 28 16 38	21 39 164 49 50 70 35 69	35 4 30 4 36 5 40 0 37 4 36 5 37 9 39 6	- 2 4 - 2 6 - 1 8 - 0 3 - 1 2 - 0 7 - 1 6	37 32 39 27 14 34 39 15	61 0 48 0 55 2 58 8 70 0 57 0 56 5 67 0	16 24 16 30 15 17 17	10 5 5 0 7 5 17 0 11 0 18 0 16 7 11 0	52394994	20 1 1 15 7 20 3 15 6 19 7 14 2 23 1	3 22 1 35 3 12 3 06 1 45 2 08 3 35 3 13	$\begin{array}{c} +0.47\\ -0.14\\ +0.78\\ -0.32\\ -0.56\\ +0.38\\ \cdots \end{array}$	0 73 0 70 1 17 0 75 0 50 0 77 0 87 0 55	12 4 10 9 6 6 13	18 26 20 21 24 24 17 21		  1	1 7 8 4

#### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOBOLOGICAL SERVICE.

#### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1912.

\*Stations not furnished with Registering Thermometers

	-	_			_																		
						r.a.					T   MH	EBATU	:1			Par	IPITAT	108	more			É	
STATION		Latitude		I I constant	Transformer	Elevation above se level, is feet	Mean	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	average	YES Observations	Highest	Dieter	Lowest	1	Mean daily rates	Amerik	Difference from	Beavest fall in month	5	No of fair days	No. of Aurories	No of thurderstorms	No of figs
Nova Scotia—		0	,																				
Antigonish Halifax Kentville New Germany		45 44 45		61 63	59 36	50 88 40	36 0 39 1 37 1 38 8		- 0 3		60 0 67 2 70 0 68 0	17-24 17 16 16	15 0 20 3 16 0 11 0	5 19	20 3 16 1 18 1 10 1	3 87 2 48 0 72	-0.65 -	1 24 0 73 0 72	8	15 22 29		1	3
Parrsboro'. Port Hastings *Sable Island, E. Pt			311	61	$\frac{19}{22}$ $\frac{46}{}$	40 45 25		-	- 1 4		63 0	16 26	18 0 22 0	3 5 14	14.7	1.13	-2.56		3 5	27 25			5
Sable Island, Main Stn Sydney Truro "Whitehead Windsor Wolfville Yarmouth		45 45	22 15 59 7	63 61 64 64	10 18 8 6 20 2	35 77 20 90 65	37 S 34 1 39 3 31 9		- 1 0 n 0	36 10 13	60 0 64 7 45 0 70 5 72 8 55 1	17 16 26 17 16 17 25	14 0 0 0 25 0 15 0 18 0 19 5	5 4 5 5	16 5 21 2 17 9 19 5 13 8	3 02 0 51 2 21 1 48	$-195 \\ +018$ $-126 \\ -134$	0 38 0 11 0 77 0 79	12 5 10 7	19 18 22 20 23 16		1 1	1 2 9
P. E. ISLAND-																							2
Charlottetown Charlottetown (Exp. Farm Hamilton	)	46 46 46	14	63	10 7 48	38 75	35.6 35.7	-	- († 5 -		56 0 62 0	25 16	11 5 12 0		14 7	3 14	+0.79	1 03 0 88		15 16		1	-
Newfoundiand— *Amour Point Burin *Cape Norman Fogo *Point Riche Fort aur Basques St John's		47 51 49 50 47	0 38 43 42 35	55 54 57 59	17 25	27 30 35 27 125	24 4 31 ! 26 3 28 3 25 5 29 1 31 9		- 3 5	4 30 4 39	41 0 55 0 40 0 48 0 47 0 39 5 49 0	9 8 26	10 0 12 0 13 0 10 0 6 0 11 5 13 0	2 2 1 2 2 3 2 2	15/9 8/8 9/3 11/0	1 60 2 54 1 20 2 90 0 15 7 26 3 15	-0 24 -1 20	2.32	19 8 13 5 20	24 20 22 17 25 10 18			2 2 2 0
Bermuda— Prospect		32	17	64	46	151	64-6			1 22	76 4	22	4+ 4	6	10.6	3.25	-1 62	1 32	13	17		3	

		R.	AINFAL	L.			SNOW	REMARKS.			
STATIONS.	\mount in inches.	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month.	Date.	Amount in inches.	No of Days	Henviest bull in Month.	Date.	REMARKS.	
RITISH COLUMBIA— Alkalı Lake Annis (Lance Point) . Amistrong	1 20 1 22 1 20	11 15 7	19 15 23	0 32 0 37 0 41	11 11 11	*					
Akanuma Beaver Lake Coquithin Denman's Island Ferguson Guldstream Lake Guldstream Lake Guldstream Lake Hornby Island Jordan River (Bear Creek) Lattle Qualicum (Treek) Creek, V. I. I. Monte Creek Monte Creek Scheleszte Skaleszte Skaleszte Skaleszte Skaleszte Skaleszte	1 13 1 33 1 11 2 09 2 48 1 36 1 35 1 95 2 73	8 11 9 10 17 12 4 12 19	22 16 21 19 13 18 26 15	0 52 0 76 0 40 0 50 0 51 0 61 0 60 0 34 0 68	29 28 28 11 30 30 28 4 28	2 0 3 5	1	2 0	4 3		
Little Qualteum (French Creek, V.T.). Monte Creek Naus Harbout Skidegate Shawingan Lake	1 29 1 44 1 20 2 09	8 11 6	22 18 24	0 25 0 37 0 65 0 32	. 24 5 29	0 2	1	n 2 :	4		
Wychife	0 60	5	14 25	0.28	11						
ALBERTA —  Bardo Bismark Bruederheim Bittern Lake Brooks Campise Caddwell Dorenlee Dimetable Griesy Lake Jumping Pound Lacenthe Loch Sboy	0 52 0 27 1 32 0 48 1 25 0 56 0 82 0 54 0 59 0 30 2 43	4 2 9 5 9 7 7 4 4 4 7	24 27 21 24 20 20 24 23 16	0 20 0 25 0 56 0 16 0 43 0 23 0 50 0 30 0 22 9 30 1 24	30 30 30 22-25 29 30 17 13 25 25 28	3 0 0 3 1 0 2 5 5 0 2 4	1 1 1 3 2 3 7	0 3 0 0 3 1 0 1 5 2 0 0 6 0 6	12-22 26 13 5 11-27 12 23-26 11		
Loch Sloy Lyndon Landmun Landm	0,87 0 26 0 25 0 67 1 21 1 39 1 64 1 79 1 16 0 79	3 1 5 3 6 4 1 6	22 28 25 25 25 23 26 21 12 27	0 37 0 26 0 08 0 04 0 57 1 64 0 72 0 27 0 28	25 28 24 12 11 30 3 ) 11 - 30 16	2 2 7 0 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	$\frac{3}{1}$ $\frac{2}{1}$ $\frac{3}{3}$ $\frac{3}{2}$	2 0 7 0 1 5 8 3 5 2 0	5 11 5 25 1-12 11		
Sask steuew vs.— Aberlehis Gull Tarke Gull Larke (Fks. Swift Cur) Lask Mountain Maple Creek Mendow Larke Nisibitya (Tkelyinhin a) Willow Creek	0 33 0 03 0 16 0 13 0 26 0 85	3 1 2 2 3 5	27 27 25 26 27 25	0 16 0 03 0 10 J 10 0 10 0 10 0 45	30 21 26 23 27 12	1 7 1 2 1 0 1 0	1 2 3 2	0 9 0 6 0 8	6 29 5 13		
Manitoba— Cartwright Deloraine	3 77 2 50	7 4	23 23	1 34 1 50	14 29	7 0	ż	4.0	13		
Gretna Norquay (Swan Lake) Rapid City Rose Bank	1 64 1 60	4 2	23 26	1 12 1 00	14 13	16.5 5.5	3	10 0 3 0	6 14		
ONLYING— Doer Park Datton Emission Emission For Park For	1 86 1 80 3 05 0 91 1 72 3 53 3 53 1 97 3 24 3 65 2 90 4 02 4 15 2 06 2 39	7 6 10 2 12 12 8 5 7 7 4 4 9 10 3 6 6 6 6 6 10 5 3	21 22 20 23 155 16 24 21 25 20 25 24 25 20 25 24 25 20 25 25 26 27 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	0 65 0 75 1 13 9 80 0 53 1 06 0 58 1 107 1 100 1 107 1 10 1 107 1 10 1 17 0 67 0 48	15 14 15 25 7 7 22 29 29 14 22 25 7 7 7 7 7 7 7 7 7 7 7 7 7 7 15 15 15 15 15 15 15 15 15 15 15 15 15	4 3 * C 9 3 0 0 1 0 0 5 5 5 4 0 0 0 5 0 0 0 5 1 7 7 2 0 0	5 3 2 4 4 1 2 1 1 4 3 2 2	2 8 3 1 5 5 0 8 2 0 4 0 0 5 4 0 0 5 1 0 0 1 0 1 0 0 1 0 1 0 0 1 0 1 0	9 7-19 23 9 9 2-9 2-9 2 9 9 3 3  1		
Lacerne Perkins Mills Quinze Dain Timiskaming	3 23 3 70 1 10 1 05	6 7 4 8	23 21 26 18	0.91 1 30 0 53 0 37	6 22 25 6	0 3 7 3	1 2 1 4	0,2 3.5	24 1 23		
New Bri NSWICK— Point Escummac	0 21	4	23	0 00	22	9 4	3	4 2	3		
Nova Scotta Big Mushamush Lake (Ma- hone) Kontville Kedgemakooge Lake (New	2 15	5	24	0.73	19	3 3	2	3 0	3		
Grafton) Matton Mushamush River (Mahone)		7		1.32	18						
New Germany South Alton White Rock	2 01 1 82	7	23 27	0 84	19 19	15.0	4	8.0	4		

### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

PRESSURE, HUMBDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF APRIL, 1917.

a Barometer not reduce I to sea level

ļ			- Bec		Press	CRE		andity.	of chard	Nieter.			Lin	E: TIO	- N (i)	W ( 5 )	- FE	V			V E	IG ITT OF
STATION	Latitude N.	Longitude W.	Elevation above so   Sevel, in feet	Mean reduced.	Highest.	Lowest.	Range.	Mean relative humidity	Mean amount of cloud	nuded	Z.		4		7.	W 7.	=	1.5.W	5	Total number of observations	Mean unles per hour	Maximum velocity. Pate and direc- tion from,
Bidtish Columbia— Atin	54 10 54 10 50 50 50 40 49 1	, 6 , 7 5 133 38 2 121 35 2 120 29 5 123 37 8 130 18 2 129 5 1 120 29 7 123 5 4 123 19	170	29 81 29 82 29 85 29 85	30 1: 30 0: 30 1. 30 1:	29 3 29 3 29 1	5 0 75 10 0 89 10 0 79 17 0 95 17 1 02 12 0 83 27 0 95 34 1 00	67 52 72	6 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	2 6 .15 12 × 4	2 0 2 0 0 0 0 2 4	0 0 5 0 0	1 1 2 6 11 12 5	5 15 15 8 3 19	25 10 3 10 6 0 1 6	4 - 2 3 4 1 6 4	1977 1779	6 0 5 17 0 h 2 4	14 51 16 22 25 21 11 4	60 60 60 60 60 60 60 60	7 0 544 7 55	20 0 2 8 20 0 2 8W 15 0 4 8W 15 0 4 8L 12 0 4 W 28 0 7 8W
YUKON— Dawson	64	4 139 20							,		7				6	D		2	42	60	1 7	10 12N
ALBERTA— Banff Calgary Edmonton Mcdicine Hat	51 53 3	0 115 34 2 114 - 2 3 113 30 1 110 37	4542 3389 2158 2161	29 85 29 85 29 85 29 80	30 18 30 14 30 20 30 07	29 : 29 : 29 :	28 0 90 14 1 30 31 0 86 16 0 61	64 - 71 - 71		4 2	1 5 4 3	4 14 15	1 8 2	57	1 2 17	14 4 4 15	10 7 6 15	25 7 9	15 1 5 2	60 60 60 90	4 3 5 1 6 4 4 0	50 0 6 SW 24 0 7 NW 15 0 0 NE 16 0
Saskatchewan— Battleford Moose law Prince Albert Qu'Appelle Swift Current	50 2 53 1 50 3	1 158 20 1 105 35 0 106 0 0 103 47 0 107 45	1620 1759 1432 2115 2439	29 87 29 86 29 91 29 96 29 8	30 24 30 21 30 21 30 21	29 29 29 29 39	37 (* 57) 38 (* 55) 42 (* 52) 37 (* 53)	74 69 74			4 5	5 5 15 6	24 4 9	35 6	3 '9	9 5	9 7 5 20	14 6 10 8	11 23 0 8	90 90 60 90		
Manitoba—  """ "" "" "" "" "" "" "" "" "" "" ""	50 1	2 99 33 5 99 50 3 97 7	1699	29 93	5 30 3.	. 29	33 0.72 49 0 ×3 50 0 ×5		4	4.7	7	11 3	2 2	ì	1	i	0 4	10	21	 60		
ONTABIO— Cochrane Haileybury Kingston London Ottawa Sound Fort Arthur Port Stanley Southampton Stonechiff Toronto White Haver	41 1 42 5 45 1 48 42 4 44 8 46 43 4	2 81 0 2 81 0 2 79 39 3 76 29 9 81 13 6 75 42 9 80 0 77 89 12 10 81 21 9 9 78 6 9 9 8 78 6 9 9 78 6 9 9 78 6 9 9 8 78 6 9 9 78 6 9 9 78 6 9 9 8 79 78 78 78 78 78 78 78 78 78 78 78 78 78	255 505 294 635 644 592 656 557 357 1252	29 99 99 99 99 99 99 99 99 99 99 99 99 9	9 30 4 6 30 4 7 30 4 7 30 3 7 30 4 7 30 4 8 30 4 4 30 3 9 30 4 4 30 3	29 1 20 20 20 20 20 20 20 20 20 20 20 20 20	29 1 21 45 1 00 40 1 09 40 1 05 25 1 16 46 1 01 26 1 09 44 1 03 44 1 03 44 1 0 37 1 0 248 0 95 17 1 13 42 1 0	73	5 5 6	5 THE B	19 0 2 10 3 8 11 0 4 23	1 13 45 2 4 15 0 8 0 2 0 12	5 3 3 7 5 6 9 13 1 1 1 1 0 6	1 4 6 5 4 10 7 5 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	X 10 12 12 40 40 40 5 10 5 10	14 h 21+36+3 h 215 20	5 11 10 1 - 1 6 1 - 2 1 - 7 10	17 15 8 27 17 13 7 15 15 15 15 15 15 15 15 15 15 15 15 15	0 13 0 0 0 3 3 4 1 38 2 16 0	60 60 60 60 60 60 60 60 90	11 13 7	V 7 NW
QUIBEC— Father Point Montreal Quebec	48 3 45 3 46 4	11 68 - 19 80 73 - 35 88 71 - 13	187	29.9	3.30 4	6.29	01 1 50 34 1 12 15 1 35		6 5 5	3 .5	2 4 1	1 5 20	12 4	2 3	5	10 8 11	15 14 24	10 14 5	4	ńti her her		
New Brunswick— Chatham	47 45 5 44 4 45 1	3 65 29 57 66 36 17 66 46 17 66 4	21 164 49 70	24,9 29 9 29 9 29 9	2 30 6 4 30 6 4 30,5 3,30,5	2 29 2 29 7 49 5 29	14   48 05   57 13   44 05   53	7.	5 6 5 5	6 1 4 6	5 5	1	12 3	12 4	1 1 1 1	4 13	14 25	15 23 17 14	3 0	61 96 61 61	19 5	23 7 38×W
Nova Scotia— Halifax Sydney aWolfville Yarmouth	46 1	39 63 36 10 60 10 7 64 20 50 66 2	35 35	29 9 29 9 29 8 29 9	3 30 5 3 30 6 8 30 5 6 30 5	6 29 2 29 3 29 9 29	17   39 07   55 06   47 19   40		;	1 7	1) 6 5	3 5 5	3 3	12.3	0.2.26	12	15	11 13 15 11	3 3	62 64 64 64		
P. E. ISLAND Charlottetown	46	14-63 10	3 \	29.9	2 30 5	6 29	07 1 49				4		,	5	11		á	13	1.3	641		
NEWFOUNDLAND Burin Fogo Port aux Basques St. John's	47	0 55 10 43 54 15 35 59 10 34 52 43	27 30 27 2 125	29 6 25 8 29 8	3 <b>3</b> ) 4 8 30, 4 0 30 6 5 30 3	7 25 7 25 7 29 7 29	15   32 97   50 12   45 01   36		5 5 6	4	1 1 1	10 10	19		1		11	10 7 11	0.200		17 2 21 4	25 - 21 \ \\ 14 + 22 \ \\
RERAIUDA Prospect	32	17 64 4	5 151	30 3	2 30 4	6.30	03 0 43				10	5	-1			11	3	6	1	2.11		

### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

DIRECTION OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF APRIL, 1912

			- 12112	F242:F14	- 	E WI	VIX. I	SDOM.	-	
			DIK	ECIT	0 ZC		VD 1	-KOW		
										o į
OT VELON										herions
STATION										num
	ż	NE	ы	S.E.	જે	8.18	W.	W.W		Total number Observations
Alberta—										<u> </u>
Athabasca Landing Alix	4	3 2	6	3 2	4	$\frac{1}{2}$	6 2	3 2	0 6	30 30
Halkirk (Emsburg)		l								
HillsdownLoyeland	1 ()	5 6	0	] 5   9	0	7	2	22 6	6	60 30
Pakan (Victoria)	11 10	18 8	3 25	7	1 ()	13 2	5 4	4 25	4 9	60 90
Saskatchewan — Chaplin	4	7	3	4	()	5	3	4	0	30
Crescent Lake	1	G	3 6	3 2	8	2 3	3	4	0	30
Estevan Grenfell (Brownhill) Indian Head	1 0	.5 13	3	9	4 2	15	4 3	5 15	0	30 60
Indian Head Larchmount (Glenbryan)	8	15 13	13	7 2	9	12 11	7	11	8	90 60
Moosomin	2	0	2 3	3	1.1	5 22	$\frac{5}{4}$	5 20	0	30
Muenster (St. Peter's Monastery) Onion Lake.	7	4	9	2	0 1	0	2	5	0	30
Pense (Gatesgarth)	0	5 5	4	8 5	0	4	1 5	8 5	0	30 30
Manitoba — Bereis River	2		5	9	16	3	7	1	1	62
Brandon			5	5	2	24	11	21	11	93
Hillytew	5 7		11	2 7	5	27 11	1 2	44 7	6	93 62
Morden Oak Bank	3 5		0	4 3	1	15 5	10 2	10 13	8	62 31
Stony Mountain	11		3	4	10	17	3	6	Ü	60
Ontario – Agmeourt	2	16	15	10	3	15	5	24	0	90
Alton	5	2	0	16	in o	2	4	23	27	90
Birnam Clinton	7	6 6	12 10	4	14	3 5	5 10	9 11	0	60 60
Cottam	13	1	9	20	23	6	1	3	2	60
Gravenhurst	8	7	12 14	8	4	6 13	16 6	11 25	13 4	90 90
North Bruce	В	4	20	3	17	7	23	7	0	90
Orillia Owen Sound Point Clark										
Port Dover	4	5	4	3	1	5	0	8	0	30
Scarboro Junction Stoney Creek	6	2 18	8 26	0	2	6 14	4 18	5 8	3	30 90
UplandsOUEBEC	1.4	0	7	0	()	1	18	1	10	60
Abitabi	26	2	12	1	14	5	20	10	0	90
Anticosti, freath Point	12	4 2	8 12	3 7	24 19	3 16	7	29 24	$\frac{0}{2}$	90 90
Brome	11 12	21	0 2	0 3	11 16	6 23	16 21	25 5	0	90 84
Cape Chatte	3	4	18	0	1	2	32	7 -17	23 10	90
Cape Chatte Cape Magdalen Cape Rouge	$\frac{1}{22}$	4	0	()	0	3	0	3	0	30
Chicoutinii	0 4	10	8	47	0	32	0	1	0	90 30
Clarke City Roberval New Brunswick —	7	18	0	0	i	25	8	13	0	72
Dalhousie	0	0	7	6	0	0	17	0	0 2	30 20
Moneton Pt. Lepreaux	0 9	1	19	4 1	1 8	0 15	9	19 16	0	78
Sussey Nova Scotia—										
Kentville	1	2	3	()	4	3	12	5	0	3 <b>0</b>
Port Hastings		10	0	7	0	7	0	6	0	30
Sable Island E. Pt	3 5	10 7	0 5	16 6	. 17	25 9	$\frac{0}{28}$	33 10	0	90 88
Whitehead	12	2	10	10	10	25	8	13	0	90

## MEAN PROPORTION OF BRIGHT SUNSHINE BEGISHER D IN EACH HOUR OF THE 1975 IN THE MONTH OF APRIL, 1812

Horrs Pairso

									1 - 11	1							
STATION.		6 a m.	7 a m.	, a m	1 a m.	10 a m	11:: 11	North	= -	-	Ĭ.	en en ve	11	11 4 2	-	III d c	
Victoria			.03	17	.28	55	.30	45	11	1.	45	ļ	23	19	1.1		
Sq <sup>1</sup> mon Arm			10	21	40	49	57	55	(4)	41			37	25			
Nanamio				02	13	13	15	24		.17	33	25	27	12	101		
Vancouver.,		01	14	22	28	30	32	12	6	5		12	12	25	n-		
Agassiz		03	10	15	21	25	25	22	Th.	23		15	05				
Tranquille		01	21	28	19	54	55	53	50		11	12	33	28	10		
Summerland		05	35	50	52	17	40	40	48	14		\$5	40	30			
Kamloops		01	07	26	37	53	55	55	60	51		18	34	1.1	01		
Edmonton		08	30	33	19	55	63	63	57	(3)		10	36	28	06		
Lethbridge	01	22	45	66	66	62	63	61	lib	56		17	41	36	11		
Lacombe .		05	22	46	62	60	53	hā	65	60	1.0	57	46	35	11	01	
Medicine Hat		07	3.8	63	70	71	681	7.1	7.1	7.3		42	46	27	0.7		
Fort Dunvegan		12	23	.51	56	50	47	11	41	4.7	17	51	41	26	11%		
Fort Vermilion		01	15	31	43	54	$\{j\}$	62	67	65	11	5h	3.0	10			
Battleford		02	35	63	7.5	70	50	73	7.2	1.5	65	60	48	16			
Indian Head			09	45	63	67	64	70	liki	68	63	58	11	27	63		
Moosejaw		14	44	70	69	72	7.1	69	71	69	71	70	50	37	07		
Scott	68	27	43	52	15	63	7.4	57	89		70	55	36	16			
Rosthera		15	28	71	72	73	7.5	76	76	75	78	7.4	6h	10	16		
Brandon		.01	15	5.5	7.5	51	5.3	81	77	74	65	61	52	15	05		
Winnipeg		.02	.28	17	51	49	54	60	+1	61	1.5	70	62	15	16		
Halleybury		.15	48	59	59	59	64	6.4	65	66	1.5	há	63	54	24		
Woodstock			01	24	45	52	43	51	51	51	41	54	17	12			
Lindsay			02	17	39	52	54	53	52	54	49	1.3	39	25	13		
Barrie		01	21	41	44	51	51	47	49	51	В	1.7	46	29	Т		
Toronto			17	41	50	56	55	56	50	53	31	. 55	53	11	115		
Kingston		05	24	15	57	56	$\mathcal{E}_{i}(t)$	13	57	57	ân	51	-43	18	05		
Ottawa		.16	.56	.59	62	7.2	7.1	7.5	70	E <sub>r</sub>	63	+4	57	. 37	10		
Montreal	T	31	57	64	72	69	66	72	70	90	55	ân	50	,04	.1.		
Cap Rouge		.11	39	54	54	(1.)	4,5	1311	60	(5	F2	57	55	1.5	07		
Quebec		01	26	55	.58	GD	67	70	70	66	61	58	54	200	0.3		
Sherbrooke	01	25	51	58	63	61	Etc	£3	62	58	57	5.5	55	45	17		
Fredericton		09	41	52	56	59	58	61	63	62	59	60	61	17	16		
Charlottetown	.02	11	22	.35	.38	4.3	40	41	1.7	46	10	.49	50	3.3	419		

	Victoria.	Salmon Arm.	Nanaimo.	Vancouver.	Agassiz.	Tranquille.	Summerland	Kandoops	Edusonton.	Lethbridge.	Lacambe,	Medicine Hat.	Fort Dunvegan	Lort Vormillion	Bertheford,	Indian Beat	Musee Jaw	Scott	Esthern	Mrmd n	Mirroper	Hubsbyr	W. F	1 1 1 1 1	Barrie	Toron	Ning-4 in	1 87 - 101	Montreal	Cap Roger	- 100		17.000	Charlaterown
egistered duration in hours	115	145	66	114	60	15h	151	148	178	210	195	215	163	1876	221	195	237	236	251	226	201	2.11	147	115	158	18:		255	22,	21%		221	11	1.2
ercentage of pos- sible duration %																																		
ifference from average %	- 16	_	-21		-17	_		_				_				_ 3		_	_	- 1	: 1							11.			12		15	
aximum percent- age in one day %	77	84	69	87	65	94	84	82	78	95	80	87	83	76	8.1	54	93	95	90	81,	9		× :	80	**	91	113	92	10%0	51	×ñ	415		94
ate of maximum	8	5	24	8	8	21	5	21	2	20	8	15	16	17	9	20	20	15	26	21	15	11		30	3	30	30	3-1	200	20	20	25	24	27
umber of days completely cloud- ed	5	2	11	6	12	1	2	6	4	3	4	2	1	1	2	3	1	0	0	2	ï			5	i,	2	1.	4		2	1	2	5	7

Auroras recorded-

- 1. Haileybury III.
- 2. Haileybury III.

3.

- 4. White Shore Lake IV, Schreiber IV, Aitkensville IV, Chagoness IV.
- 5. White Shore Lake IV, Mistassini III, Hillsdown IV, Sion III. Muenster III.
- 6. White Shore Lake II, Aitkensville IV.
- 7. Schreiber IV, Sion.
- S. Birnam IV.
- Cartwright IV, Aweme III, Renfrew, Schreiber IV, Aitkensville IV, Quebec IV, Haileybury II, Oliver, Glenbryan II.
- 10 White Shore Lake II, Minnedosa III.

11.

- 12. Chicontimi, Schreiber IV, Rutherglen, Quebec IV, Father Point III.
- 13. White Shore Lake II, Mistassini III, Deloraine, Glenbryan I.
- Mistassini IV, Aitkensville IV, Halkirk, Hillsdown III, Waitefield II, Sion II, Oliver, Muenster III, Melfort IV, Glenbryan II, Pense III, Qu'Appelle IV, Chaplin IV, Brownhill III, Imperial I, Chilcotin II, Chilliwack IV.
- Cartwright III, Brandon, Aweme I, Kakabeka Falls II. Aitkensville IV, Haileybury IV, Waseca, Glenbryan II, Pense II, Chilcotin III, Chagoness III.
- Cartwright IV, Brandon, Aweme III, Lucknow IV, Montague, Aitkensville III, Sion II, Wascca, Oliver, Melfort IV, Glenbryan II, Pense III.
- 17. Aweme IV, Aitkensville IV, Parry Sound III, Haileybury III. Sion, Waseca.
- 18. Haileybury III.
- Emsdale III, Clinton IV, Lucknow IV, White Shore Lake II, Halkirk, Oyen IV, Haileybury II.
- 20. Mistassini IV, Waseca.
- 21. Haileybury 111.
- 22. Halkirk, Oliver,
- 23. Sion.
- 24. Mistassini III.

25.

26.

27.

28.

29.

30.

### Thunder recorded—

- 1. Port Dover.
- 2.
- 3.
- 4. Rapid City.
- 5. Oyen, Glenbryan.
- 6. Kakabeka Falls, Haliburton, Montreal River, Schreiber, Port Arthur
- 7. Providence Bay.
- 8.
- 9. Treherne.
- 10. Alix.
- 11.
- 12. Georgetown, Paris, Clinton, Port Stanley, London.
- 13. Birnam.
- Georgetown, Wesley, Emsdale, Wattenwyl, Agincourt, Beatrice, Pt. Clark, Stoney Creek, Providence Bay, Anrora, Uxbridge, Paris, Brantford, Bancroft, Clinton, Lucknow, Almonte, Haliburton, Peterboro, Birnam, Ronville, Madoc, Lorne Park, Scarboro Jet., Jumping Pound, Shelburne, Woodstock, Southampton, Parry Sound, Grayenhurst, London.
- Deer Park, Orangeville, Emsdale, Wooler, Wattenwyl, Lucerne, Perkins Mills, Agincourt, Pt. Clark, Bloomfield, Brantford, Madoc, Lucknow, Haliburton, Peterboro, Renfrew, Montague, Chicontimi, Scarboro Jet., Moncton, North Gower, Rutherglen, Ottawa, Kingston, Parry Sound, Gravenhuist, Lindsay.
- Brome, White Shore Lake, D'Israeli, Lake Edward, Pt. Lepreaux, Montreal, Quebec, Charlottetown, Ottawa, Wolfville.
- 17. Port Hastings, Kentville, Sydney, St. John. Grand Forks.
- 18. Pt. Clark, Grank Forks.
- 19. Salmon Arm.
- 20.
- 21. Wattenwyl, Ronville, Glenbryan.
- Emsdale, Wooler, Bloomfield, Providence Bay, Brantford, Paris, Birnam, Renfrew, Madoc, White Shore Lake, Scarboro Jet., Westport, Rutherglen, Kingston, Lindsay, Glenbryan, East End, Nakusp, Salmon Arm.
- 23. Nakusp.
- 24. Clinton, Kenora, New Germany, Pakan, Hillsdown, Waitefield, Kingston, Muenster, Pense.
- 25. Oakbank, Treherne, Almasippi, Windsor, N.S., Harmattan, Indian Head, Quinze Dam,
- 26. Georgetown, Wattenwyl, Bruce Mines, Montreal River, Winnipeg.
- 27. Morden, Harmattan.
- 28. Halifax.
- 29., Rossland.
- 30. Ninga, Deloraine, Waitefield, Minnedosa, Chaplin.

### FORECASTS FOR APRIL 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1207. These were divided as follows:—

		No.		Verifi	ED.	
D	ISTRICT.	Issued.	No. Fully.	No. Partly	No.	Per- centage.
Alberta		81	57	14	10	79 0
Saskatchewan		82	60	9	13	78 7
Manitoba		85	52	20	13	72 9
Lake Superior		97	77	14	6	86 6
Lower Lake Region		113	83	22	8	83 2
Georgian Bay		112	81	20	11	81.2
ttawa Valley		95	69	18	8	82.1
Upper St. Lawrence		95	70	17	8	82.6
ower St. Lawrence		107	83	18	6	86 0
Sulf		109	81	19	9	83 0
Maritime Provinces West		116	89	20	7	85.3
Maritime Provinces East .		115	88	24	3	87 0
Total		1207	890	215	102	82 6

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto,

June 7. 1912.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Meather Review

VOL. XXXVI.

MAY, 1912

No. 5

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

A new section, containing the results of the observations obtained from balloon ascensions, is added to this number of the Review under the heading "Free Air Data." The data for 1911 were published in a supplement to the Review for that year, and it is now intended to publish the results of the balloon ascensions in the Review for the month to which they belong if the balloons have been found before publication.

### TEMPERATURE.

### BRITISH COLUMBIA.

In the Kootenays the average temperature was exceeded by 3. This was due to a warm period beginning on the 6th and continuing till the 20th, daily maxima ranging between 75 and 88. Along the upper Fraser and the North Coast there was a similar excess above average. Over the remainder of the province the departure was smaller and was even negative on the northern portion of Vancouver Island.

### WESTERN PROVINCES.

Except in the extreme south-west, the mean temperature in Alberta was exceeded by more than 2. From the 13th to the 15th 80° was exceeded daily, and after the 12th frosts were infrequent and very light.

Over the greater part of Saskatchewan the mean temperature was less than average, by 1 in the north and 2° in the south; but in the extreme north-western portions the average was exceeded by from 1° to 2°. The highest temperatures occurred on the 15th and 16th, in many places exceeding 80°. Frost occurred as late as the 19th and 20th and was severe in some localities.

In Western Manitoba temperatures were nearly average, but in the eastern portions of the province there was an excess of from 2° to 3°. The warmest period was that between the 25th and 30th, 80° being exceeded on the 25th and 26th. No severe frost was recorded later than the 13th.

#### ONTARIO.

In the Rainy River and Thunder Bay Districts the normal temperature was exceeded by from 1° to 3°, and in the Peninsula by 1° or 2°. Over the remainder of the province the mean temperature was average or slightly lower. Temperatures of 80° or higher were recorded about the 23rd and 24th, and light frosts as late as the 14th.

### QUEBEC.

In the Abitibi region and along the Upper and Middle St. Lawrence the mean temperature was about 1 higher than average. But in the Lake St. John district and along the North Shore it was average or slightly lower. At points on the Upper and Middle St. Lawrence 80° was exceeded on the 28th and 29th.

### THE MARITIME PROVINCES.

There was a general excess over average temperature of about 2°. The highest temperatures occurred between the 27th and 30th. There were no heavy frosts after the first week, but light frost was recorded in Nova Scotia on the 23rd.

### PRECIPITATION.

### BRITISH COLUMBIA.

The greater part of the prespitation was recorded during the last two weeks, and was considerably less than average in most districts.

### THE WESTERN PROVINCE

Rain occurred in Alberta on the 1st, 2nd, 3rd, 9th, 18th, 27th, to 30th, but was in excess of average along the North Saskatchewan only, while in other districts it was considerably less.

In Saskatchewan there was an excess of from 20 to 40 per cent, of the normal, while in Manitoba it was even more pronounced, many places recording a fall of more than an inch on the 6th, 27th, or 28th.

### ONTARIO

Much more than the average rainfall was recorded, the excess in some instances exceeding 50 per cent, of the normal. Thunderstorms were frequent in all districts.

### QUEBEC.

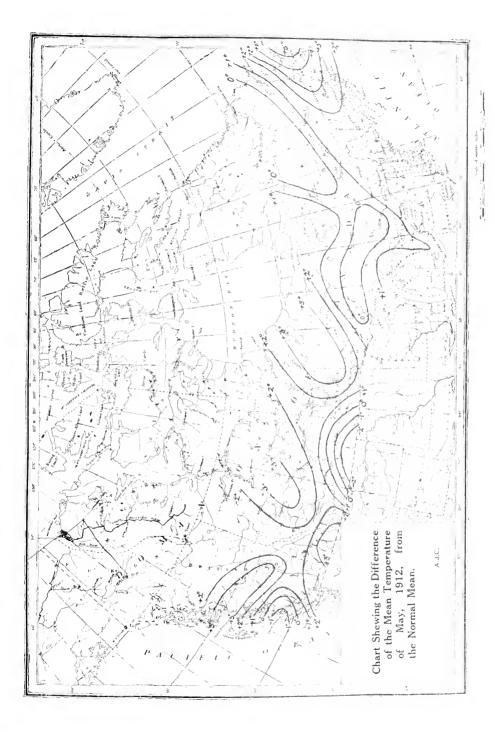
The excess was generally about 10 per cent., more than an inch having been recorded on the 14th and 24th at several places.

### THE MARITIME PROVINCES.

Rain fell on an average of eight days, with heavy falls on the 17th, 30th and 31st, in some cases exceeding two inches. The total amount ranged from 20 to 40 per cent, in excess of average.

### ATMOSPHERIC PRESSURE.

Using the telegraph reporting stations as indicative of the conditions throughout Canada, it appears that the mean value of the atmospheric pressure was subnormal from Eastern Saskatchewan to Northern New Brunswick, and exceeded the average elsewhere. Negative differences were generally more than 0.05 of an inch, while the positive departures were about half that quantity.



### HIGH AREAS.

Seven areas of high pressure were charted. Four first appeared to the far northward, in the neighborhood of the Hudson's Bay district, and three on the coasts of the North Pacific States. The

areas all eventually reached the Atlantic Ocean, three passing off the Middle Atlantic States coast, three off the Maritime Provinces coasts, and one off Newfoundland. The systems as a rule were quite pronounced for the time of year, and those from the northward were attended by much cool weather.

### LOW AREAS.

Eleven areas of low pressure were charted. Two first appeared on the British Columbian coast, three to the northward of the Western Provinces, one on the coast of the North Pacific States, one in the Middle Pacific States, two in the South Pacific States, one in Texas and one in the Middle Atlantic States. The general course of the areas was over the Great Lakes to the St. Lawrence Valley and the Maritime Provinces. No very strong winds as a rule attended the areas, but they were chiefly noticeable for the heavy rains which they caused.

### FREE AIR DATA.

The results obtained from balloon ascensions for the year 1912 up to and including May are given in this section.

Balloons despatched from Woodstock on the 2nd, 3rd and 4th January were not found.

### FREE AIR DATA.

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat 43 8' N., Long. 80 47' W ) on 31st Jan., 1912.

Instrument-Dines Meteorograph.

Beginning of Ascent-10 hrs., 17 min. p.m. G M T.

Barometer - 729 mm. Temperature = - 9 C.

Direction of Flight at Beginning-Southeast in moderate to fresh wind.

Fell—183 km. distant, S. 20 E. Maximum Height -9.3 km. Minimum Temperature -55°C.

Height in km, above S.L.	Pressure in mm.	Temperature in C	entigrade degrees
G.L. = .3	729	- 9	0
. 5	708	12	. 0
.9	672	15	.0
1.0	662	15	.0
1.5	620	-12.0	-15 5
1.56	615	-11.5	-15.5
1.75	600	12.0	-15.5
2.00	581	-13.0	14.5
2.3	558	-16	. 0
2.5	543	—17	.0
3.0	507	-18	5
3.5	472	-21	.0
4.0	441	-24	. 0
4.5	412	-27	.5
5.0	384	-30	.5
5.25	370	-32	.0
5.5	358	-34.0	-34.5
6.0	332	-38.0	-40.0
6.5	308	-44.0	-45.5
7.0	283	-48.0	49.0
7.5	263	-51.5	52.0
7.7	254	-53	.5
8.0	243	-54	5
8.5	224	53	.5
9.0	207	-54	5
9.3	198	—55.	0

### Jan. 31st, 1912.

A well marked depression was travelling up the Atlantic coast, being central at the time of the ascent off the Nova Scotia coast, and a shallow depression covered Wisconsin.

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

Lat. 43 8 N., Long. 80 47' W) on 6th March, 1912.

I want of Duces Meteorograph.

Begin to ret of Ascent - 10 hrs., 50 mm. p.m., G.M.T.

Barometer 541 mm.

Temperature 5 6 C.
Direction of figure at Beginning -West at first, and

then east above 1000 metres elevation.

Fell -160 km. East Maximum Height-15.1km. Minimum Temperature = -63 C.

leight a thora S.L.	Pressure in mm.	Temperature in Centigrade degrees
G.L. 3	741	-5.6
ã	720	- 6.0 - 9.0
15	b98	-8.5
1 0	676	-8.3 $-10.0$
	568	-80 $-10.5$
	Boli.	-9.0
	633	- 9 0 - 9.5
	595	- 9.0
	5.55	- 9.010.5
2 1	534	-9.5 $-11.0$
. 01	5 <sub>4</sub> 3	-10.0  cdot -11.5
a .	502	-12.0 $-13.5$
	489	-13.0 $-14.5$
4.0	458	-15.0 -17.0
1.5	4.27	-18.0 -20.5
	4(9)	-21.5 -24.0
	373	-25 5 -27.5
n 0	349	-29.0 -31.0
· n	524	-32 5 -34.0
	302	-35.5 $-38.0$
	280	-40.0 $-42.5$
	260	-44.0 -46.5
	211	-49.0 -52.0
	222	-54.057.0
	205	-58 0 -60.5
11	190	60.062.5
	174	-62.5 $-63.5$
710	168	-63.0
11.0	160	63.0
12.0	136	- 63.0
13	116	63.0
11	98-0	-62.0
15 u	83.0	61.0
15-1	82 0	—61 o

March 6th, 1912.

High pressure confitions prevailed over the country cast of the Rocky Mountains, the area of highest pressure a ng off the Nova South a coast.

Billoons despatched from Woodstock on the 2nd and 3rd April were not found.

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8 N., Long. 80 47 W.) on 4th April, 1912.

Instrument-Dines Meteorograph.

Beginning of Ascent-11 hrs., 55 min. p.m. G.M.T.

Barometer—738 mm. Temperature = 6 C.

Direction of Flight at Deginning—Northeast in light wind.

Perl—260 km, distart, S. 56 E. Maximum Height 15 beart, Minimum Temperature 65 b C.

Height in km. above S L.	Pressure in mm.	Temperature in C	entigrade deg
G.L. = .3	738	٠.	i II
.50	717	l:	1.5
.160	708	h ā	1 0
1.00	672	4.5	2.3
1.35	615	7 11	1 1
1 50	632	7.0	1
2.0	ā91	\$ I	0
2.5	558	1.5	.3
3 0	5.29	4-0	5.9
3.5	4190	9.5	11.5
4 0	453	11	11.0
4.5	4,50	15.0	16 5
5.0	401	[9-0	2 + 5
5.5	376	24	2.4
6.0	359	27 5	29 ~
6.5	325	31 5	33.3
7.0	303	,515	.38
7.5	282	4 - 1	11 5
8 0	261	43.5	15 1
8.5	243	47 +	18.5
9.0	225	5 - 5	52 5
9.5	208	54.5	š**.
10 ()	192	38.5	(5r)
10.5	177	-62 +	63.1
10.7	171	-17	
11.0	162	65	<b>i</b> 11
11 5	150	63	5 .5
12 0	138	6	۲ .
13.0	117	61	2 5
14.0	10€		5
15 0	84 6	- St	1 5
15.9	73 0	58	\$ 11

### April 4th, 1912.

An area of high pressure was off the southern Atlantic coast, while low pressure conditions prevailed over both western Canada and the Western States.

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8'N., Long. 80 47' W. on 2nd May. 1912.)

Instrument—Dines Meteorograph.
Beginning of Ascent—12,30 a.m. G.M.T.

Barometer-735 mm. Temperature-8 0 C.

Direction of flight at Beginning—Northwesterly and then easterly.

Fell—190 km. distant S. 86 E. Maximum Height—12.9 km. Minimum Temperature = -68.5 C.

Height in km. above S.L.	Pressure in mm.	Te	emperature in C	Contigrade degree
G.L. = .3	735		-	8.0
G.L 3 . 5	735 716			
1.0	672		7.5	6.0
1.5	631		5.0	3.0 0.0
2.0	592		3.0	
2.5	557		2.0	- 4.0
3.0		,	0.0	- 6.0
	522		- 4.0	- 8.0
3 1	518		- 4.0	- 8.5
3.3	506		- 2.0	- 9.0
3.5	490		- 5.0	- 9.5
4.0	460		- 8.0	-12.0
1,5	431		-11.0	-15.0
5 0	402		-14.5	-19.0
5.5	377		—17 5	-22.5
6.0	352		-21.5	—2 <b>5</b> .5
6.5	329		-26.5	-28.5
7.0	307		-30.0	-32.5
7.5	285		33.5	-36.0
8.0	266		37. <b>5</b>	-41.0
8.5	247		-42.0	-45.0
9 0	230		-45.5	-48.5
9.5	213		50.0	-51.5
10.0	197		-53.5	56.5
11.0	167		-62.5	<b>6</b> 3.5
11.45	156			66.0
12 0	143			68.5
12 9	123			67.0

May 2nd, 1912.

Pressure was high off the Atlantic coast and low over the Mississippi Valley.

78

WINDS, MAY, 1912

PROVINCES AND STATIONS	Total Mileage.	Greatest Mileage in 24 hours.	Greatest Mileage in one hour.	Number of day- of Gales	Number of days of Strong Winds	inber days of Fresh Winds	General Direction
BRITISH COLUMBIA.							
Cictoria Coint Garry.	6338 5788	375 370	31 36	$\frac{1}{2}$	9	10 16	$\widetilde{\widetilde{W}}$ .
ALBERTA.							
dmonton	4045 5031	$\frac{214}{316}$	17 32	1	4	5 10	NW. NW.
SASKATCHEWAN.							
Sattleford  Prince Albert Swift Current	5945 4503 7377	390 272 391	24 21 3 )	. 1	1 .	9 5 18	NE. N. N. & W
Manitoba.							
innipeg	9481	713	30	4	9	10	N.E.
Ontario.							
Port Arthur. Parry Sound Southampton. Podstock. Podstock.	7180 5662 7919 6372 8181	469 341 540 432 542	25 21 33 27 35	3	6 8 7 15	15 13 6 6	NE. NE. S NW. F.
Quesec.							
fontreal	10694 10678	578 899	4:	7	- 15	ь	$\frac{SW}{N\Gamma_0}$
Maritime Provinces							
redericton t. John Joint Lepreaux Ialifax Ist Point Tharlottetown,	5516 7465 8733 9089 9195 6481	365 375 660 564 467 376	32 31 39 39 41 30	1 1 4 4 6	13 14 0	10 10 7 11 11 11	SW. SW. SW. SW. SW.

### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MAY, 1912.

\*Stations not furnished with Registering Thermometers

				1				Tempe	RATURE				Pre	CIPITATIO	N.	Te			ai	
~1 ATION	Z obstanla Z	raninge	Longitude W.	Elevation above sea level, in fect.	Mean.	Difference from average	Yr's Observations	Highest.	Date	Lowert	Pate	Mean dady range	Amount	Difference from average.	Beavest fall in month	Days with .01 or m	No. of farr days	No. of autoras	No of thunderstorms.	No. of fogs
British Cort were																				
S. Lancouver Island		,	0 /																	
Alberm (Benver Creek Clayorinof Cowjehan († Izonialem) Exchiet Nanisimo Nanisimo Sait Spring Island Soake Victoria	49 49 49 49 49 49 48 48 48	15 11 25 05 10 17 50 41 24	124 49 125 55 123 42 123 4 123 37 124 12 123 20 123 44 123 19	300 27 170 125 130 25 85	51 S 55 3 56 4 54 4 53 5 55 4 51 2 56 0	- 0 1 8 - 1 8 + 1 3 8 + 1 3 + 2 5	12 12 1 1 3	\$5 0 83 9 83 9 86 6 86 6 86 0 86 0 85 0 85 8 84 8	13 14 14 14 14 13-14 14 13 14	31 0 31 0 31 1 45 0 34 0 36 0 37 9	9 1 2 5 1 1 1 1	23 3 11 3 ; 21 5 16 0 19 1 21 2 18 2 19 6 17 9	2 57 3 90 2 05 0 95 2 41 2 66 1 78 1 16 1 56	-0 55 -3 07 -1 19 -0 34 	0 78 0 86 0 70 0 40 1 70 1 50 1 25 0 50 1 06	15 11 11 4 9 14 10 5	16 26 20 27 22 17 21 25 25			
V. Lancourer Island							1				10				0.95	11				
Holleetg Swinson Bay Triangle 183 and Winter Harbont Quartemo	50 50 50 50	39 37 52 32	128 18 126 53 129 5 127 40	680	52 0 51 3 51 8	- 15	, 2 3 16	82 7 50 0 83 0	14 13 44	35 5 35 0 35 0	10 8 10	13 S 13 7 17 9	4 74 6 85 2 82	=	0 95 1 85 0 54	18 16 13	13 15 18	:		
Lawer Freser Beer														1						
Agussez Chrillwinck Hope New Westminster North Niconnel Pemberton Halchery Ruskin (Shrwe Lalles Steveston (Grity Point) Vancouver)	49 49 49 49 50 19 49	23 13 12 20 16	124 31 121 57 121 25 122 54 122 3 122 33 122 23 123 17 123 5	52 21 500 330 59 125 136	57 × 9 56 9 58 2 × × 56 56 × × 50 50 5 50 5 50 5 50 5 50 5	+ 2 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 1 + 2 0 0 0 1 + 2 0 0 0 1 + 2 0 0 0 1 + 2 0 0 0 1 + 2 0 0 0 1 + 2 0 0 0 1 + 2 0 0 0 0 1 + 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	23 1 20 4	91 0 87 0 88 0 72 0	14 14 13 14 14 14 14 12 15	34 0 34 3 34 0 34 3 34 0 35 0 35 0 35 0	2 16 1 3 1 1 9 2 1	28 6 20 9 27 6 20 6 21 3 25 7 30 0 16 8	3 99 1 55 0 71 2 27 2 06 1 65 2 61 2 25 2 35	-	0 49 0 21 1 05 0 64 0 37 0 60 0 85	10 12 4 10 6 7 11 13	21 19 27 21 25 24 20 18			
t pper Fraser River																				
Balane Lake Barkerville Clalestin (Big Creek) Fort St. James (Stoarts Tigle) Quesnelle	53 51 51 54 52		126-26 121-35 123-0 124-12 122-30	4180 3100 2280 1760	45 5 49 6 47 5 55 0		9	\$3.0 75.5	14 13 15 15	2 : 0 27 : 0 22 : 0 22 : 0	4-10 10 11 11	23 8 34 8 31 3 33 9	1 81 0 43 0 35 0 19	-0.7	0.16	5 4 4	23 26 27 27	1	3	1.
Okamajan Felles																}				
Hodley Hodley (Nickel Plate Kentenous Okanagan Mission (Kelowia) Pentictol Princeton Summerland Vernon Collektream Ranch	49 49 49 49 49 50	12 15 29 29 57	120 10 119 48 119 29 110 35 120 29 119 45	1390	56 3 40 5 7 2 55 6 53 5 57 1 56 8	+ 2 + 1 : 1 : 2 : 1	5	\$4.0 \$5.0 \$5.0	13-14 13 14 13 15 14 14 14	37 0 15 0 35 0 34 0 29 0 29 0 32 0 36 0	1	19 6 126 7 26 8	0 58 2 25 0 76 0 38 1 16 0 72 1 1 11 0 80		0 57 1 0 27 9 67		26 28 27 21 26 26 20	::	2	
West Kontenan																				
Chawford Boy Funttyale Grand Forks Greenwood Kast) Nakush Neodles Nelson Rossland	49 49 30 30 49	52 52 20 20	117 31 118 27 117 0 117 50 117 21 117 48	1752 1413 1760 3400	56 4 55 9 52 6 54 7 57 3 52 4		2 2 3 3 10 9	86 0 72 5 82 0 86 0	11 13 14 15 14 13 11	37 0 30 0 35 0 33 0 32 0 31 5	28 1 13 1 1 1	26 9 28 7 22 5 26 9 27 1 19 2	1 79 1 78 1 37 1 52 2 31 2 54	=	0 62 0 42 0 53 0 37 3 0 90 0 85	6 12 7 8 6 7	25 19 24 23 25 24		3 1 1 1 2	
Fast Kontenny							1													
Alkanona Cranbrook Tobacco Plants (Elko) Wilmer	10	1		2681	52 9 55 1 54 1	1	9 16	87 0 88 0 86 0	13 16 16	26 0 29 0 29 0	1 1 4-5	32 0 25 9 28 1	1 08 1 20 1 12		0 70 0 57 0 69	5 5	26 26 27		i	
Thompson River																	:			
Enderby Kambops Neoda Lake Salmon Vim Salmon Aim Lop Laim) Lipoquille	50 50 50 50	41 9 42	119 - 7 120 - 29 120 - 39 119 - 35 120 - 29	2120	59 7 32 5 37 3 35 9 59 1	+ 1	-	57 0	15 15 11 11	39 1 33 0 34 0 34 0 39 0	29 1 11 11 6	26 3 25 8 28 3 28 8 27 5	0 32 0 83 0 66 0 35 0 47		1 0 11 1 0 48 0 20 0 23 0 43	5 3 2	25 26 23 28 29		· · · · · · · · · · · · · · · · · · ·	
North Columbia River											İ									
traklen Ulaciet Revelstoke	51 51 51		115 55 117 29 118 6	2550 4072 1476	52 0 46 7 55 9	+ 1 + + 1 + 0	)   11     13   14	82 0 73 0 83 0	14 15-16   14	28 0 29 0 32 0	2-11 2 3	29 1 21 5 27 0	0.73 1.67 1.86	0 2 -0 0 1 - 0 4		9	29 22 25	1		

### DEPARTMENT OF MARINE AND FISHERIES, CANADA: METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THIS DOLDS OF ANALYSIS

								P. C.										
				4				FIMP	1.3111.	1.						÷		
STATION.	Lantude N.		Learningle W	Elevation above sea level, in feet	Mest.	Difference from	Yr seels regions	Higher	Ditte			-		The series from		Barry Library		
British Columbia-Con																		
North Coast	0	,	, ,															
Bella Coola Khtada Prince Rupert Stewart	52	40	126 <b>54</b> 130 <b>18</b> 130 <b>1</b>	150 170 215	52 3 52 3	+ 1 5	1 <del>1</del> ±	\$9.0 \$5.0 \$5.0	14 15 14 14	28 0 34 0 20 0		31 - 14 5 13 5	1		0 61 0 61			
Queen Charlotte Islands																		
Ikeda Bay	52 53	17 58	131 7 132 9	5 30	52 8	. 3.5	14	70-0	15						1 60	.h	1	
Yukon Boundary																		
Atlin	59	3.5	131.05	2240	45.7													
YUKON— Carcross Dawson White Horse	60 64		134-34 139-29	2171 1200	44 6 48 8		5	72 0 76 0	22	24 0	5 12							
ALBERTA -																		
N. Saskatchewan Ricer																		
Daysland . Edmonton	55 53	52 33	112 17 113 30 112 0	2158	48 1 53 5 43 3	$+\frac{-}{2}$ 3	30	S1 ()	15	25 0 20 5 15 2					1 1:			
Endrang Gilt Edge Halkirk (Emisburg) Loveland Pakan (Victorin) Ranfurly (Watteheld) Wetiskiwin	54 53	52 33 0 59 17 30 0 29 58	112 0 110 43 112 10 111 59 112 31 111 38 113 23	2795 2000 2480	43 3 51 5 51 0 50 3 51 6	=	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7 2775	15 15 14 14	15 2 25 0 26 1	1 1 10 10	5-1- 5-1-	1 1		150	1		ł
The Red Deer River																		
Alix	52 51	21	113 10 112 25		51 7		ĩ	\$1.0	15									
Didsbury Eckville	51 52	35 40 23 45	114 8 114 23 114 23 113 29	3300	50 5	± 3 2	10	50.0	14 15	5.0	10							
Harmattan Hilsdown Lacombe Oyen Red Deer	52 51 51 52 51 52 52 52	14 58 16	114 23 113 29 113 44 113 49	3500 2806 2783 2806	46 5 50 9 49 8 47 8	=	4 5 1	80 0 82 7 84 5	15 15 11 14 15	2 v 5 - 2 v 1	4 15				1 1 2	14		
Threehills Creek The Bow River	51	30	113 11															
Brooks	50	34	111 54		51 5 50 2	_	1	5 11		21 a 28 a		24.4		1.0				
Calgary		12	114 2 1 113 18	3389	50-2	+ 1 4	25	82 0	15	25 0	1	24 1						
Gleichen High River	50	59 35	112 54 113 53 113 26	2952 3394	50 1	+ 1 0	[]	80.5	15	28.0		4.7						
Lawrence (Parkland) Lethbridge Lethbridge (Exp. Farm.).	50 49 49	16 42 43	112 51 112 51	2961	$\begin{array}{r} 49.1 \\ 54.0 \\ 51.9 \\ 52.0 \end{array}$	+3 =	- 1	72 0 52 0 52 0	16 15 15	28 0 27 0 23 6 26 0 27 0		-11			0.14			
Macleod Medicine Hat Pincher Creek	49 50 49	41 1 0	113 24 110 37 314 4	3125 2161 3750	52 0 55 6	+ 1 0	16 28	32.1	15 15	20 d 27 d				0.22				
Sundial	50	6	112 34	2130	53-6	-	2	06.5	7			-1 -						
Rocky Mountains Banff	51	10	115 34	4542	46.5	+ 1 5	17	76.9	1.1	21.1								
Blairmore  Athabasca River	49	40	114 30	4225	10.7													
Athabasea Landing For . Resolution Lunniord Pembina	54   61   54   54	43 9 30 12	113 17 113 52 114 19 111 0	1650	19 8 41 9 50 0		9	70.0	14	12 P 12 P 21 S					, 1			
Peace River		-	,															
Dunvegan Fort Vermilion Peace River Crossing	55 55 56 55	56 27 15	HS 35 HS 3 H7 15	1305	52 4		ā	59.11					0					

### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS AND THE DOMESTON OF CANADA, MAY, 1912.

							Темр	ERATURE				Pre	CIPITATIO	on,	re.			ø	
STATION	Latitude N.	Longitude W.	Elevation above sea level, in teet.	Mean.	Difference from average.	Yr's observations	Highest.	Date.	Lowest.	Date.	Mean darly range,	Amount.	Difference from	Heaviest fall in   month.	Days with .01 or more	No. of fair days.	No. of Auroras.	No. of thunderstorms.	No. of fogs.
SASEATCHE WAN-																			
Du'Appelle River  Broadview Brownful (Grentell) Brownlet Crescent Lake Estevan Fort Qu'Appelle Hubbard, Drain (200) Hupbral Hubbard, Drain (200) Hupbral Hubbard, Drain (200) Hupbral Hubbard, Drain (200) Hupbral Hubbral Hub	52 1 51 2 50 2 49 4 50 2 50 52 3 50 3 50 3	3 102 33 3 102 33 3 102 5 5 105 0 5 102 5 2 103 4 5 103 21 2 103 21 5 103 21 2 105 23 3 102 2 1 105 35 6 105 9 0 105 9	1960 1957 1658 1858 1858 1924 2064 1759 1884 1870 1879 2115 1690 1885	49 4 47 8 51 1 1 51 4 46 9 47 5 50 0 49 4 51 4 48 8 47 5 51 1 49 1 47 1 50 2 49 7	+ 0 7	13 7 7 1 1 1 6 1 1 22 16 11 17 28 1 1 29 1 4	\$6 0 81 6 82 0 86 1 80 0 81 0 81 0 81 0 82 0 83 0 83 0 83 0 83 0 83 0 83 0 83 0 83	25 27 16 26 26 26 26 26 26 26 26 26 26 26 26 26	26 0 24 7 27 8 27 8 25 0 28 0 28 0 22 0 24 0 24 0 25 0 28 0 25 0 27 0 28 0 28 0 29 0 20 0 20 0 20 0 20 0 20 0 20 0 20	8-18 11-12 13 14 13 4 13 4 12 13 6 6 7 13 13 14 12 13 13 14 13 13 14 13 13 14 13 13 14 13 13 14 13 13 14 13 14 13 13 14 13 13 14 15 16 16 16 17 18 18 18 18 18 18 18 18 18 18	23 9 22 3 26 8 21 8 23 0 24 1 23 7 24 5 20 7 24 5 20 7 21 8 20 7 21 8 20 7 21 8 21 8 21 8 21 8 21 8 21 8 21 8 21 8	4 83 3 30 4 85 3 21 2 86 1 5 80 3 86 3 78 2 58 1 72 3 60 3 86 1 72 3 60 3 74 4 15	+2 89 	1 10 0 56 1 15 0 90 0 80 0 59 2 16 1 33 1 25 1 60 1 62 1 11 1 127 1 00 5 11 1 41 1 1.81	14 9 17 6 3 10 13 15 C 15 14 16 15 13 13 15 5 11 13	17 22 14 25 28 21 18 19 16 25 17 15 18 18 18 18 26 20 18	2	0 5  4 	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
S. Satskalchewan River Chaplia East Ead Kelvinlurst Larchmont (Glenbryan) Maple Grock (Divide) Oliver Rathmullen Swift Current.	50 2 19 3 49 2 19 5 49 5 51 4 51 2 50 2	1 108 49 1 109 29 4 107 27 5 109 28 6 108 10 0 108 57	2202 3500 2439	49 4 47 4 49 4 49 1 46 4 	- 2 9  - - - 0 6	26 1 1 2 2 2 25	80 0 82 0 81 0 83 0 77 4 80 0 85 0	15-16 15 15 16 15 26 15	25 6 28 0 24 0 22 2 25 2 21 0 30 0	10 5 9 11 13-21 12 1 10	23 5 19 1 25 7 23 3 19 8 25 6 22 5	3 91 1 77 1 77 2 79 4 12 2 90 2 76	+1 77	1 21 0.71 0 90 0 63 2 12 1 29 1 24	15 6 7 12 2 10 15	16 25 24 19 29 21 16	2	2	
N. Saskatchewan River Battleford Lloydrainster Lrischard Omon Luke Prince (Mesta) Seott (P& Farm) Wasca.	51 5	\$ 110 0 5 109 34 2 109 59 6 108 20	1620 1700	52 8 48 6 48 3 49 4 49 4 49.6	+ 1 3 = - -	23 2 6 5 2 5	87 0 85 0 82 0 95 0 85 0 85 0	15 15 15-16 26 15 15	30 0 21 0 13 0 26 0 24 7 27 0	12 12 21 1-2 21 12 21	24,3 26,5 28,5 28,1 27,2 24,3	1 17 1,90 1 60 2 46 0 72		0.90 0.28 0.70 0.57 0.57	6 12 9 8 4	25 19 22 23 27	i 3		:
The Saskatchewan Forks																			
Chagoness . Duck Lake . Melfort Prince Albert Rostherm Saskatoon		4 106 20 7 104 39 0 106 0 0 106 20	1432 1657 1571	49 9 48 8 50 5 48 6 50 3	 - 1 4 + 0 5	2 3 25 2 16	8 40 85 0 85 6 81 2 83 0	26 26 26 27 26 27	28 0 28 0 28 2 31 0	19 21 1 20 11	23 3 25 4 24 5 22 7 22 1	3 59 1 88 1 79 2 20 3 07	 +0 25 +1.48	0.64 0.64 0.56 0.71 0.75	10 10 8 11	20 21 21 23 20		1	
Lower Saskatchewan River																			
Lost River Cumberland House				48.7		2	84-0	26	27 0	20	21.1	2 56		0.65	10	21	:		
Manitoba— Qu'Appelle and Assini boine Rivers																			
Bottle (Grees Awenn (St. Albans) Botssevam Branderty Carman Cypress River Heffwew Minnedoes Ninette Ninea Purson P	10 4 50 2 14 5 14 5 19 3 40 5 10 2 40 1 40 2 40 1 40 3 40 5 50 1 40 5 50 5 40 5 60 5	1 99 57 2 99 20 3 99 3 5 100 33 5 99 50 4 99 38 4 100 58 7 98 17 6 98 17 6 98 40 6 98 40	1180 1703 1176 1258 872 1232 1400 1699 1363 1649 1531 1400	53 1 51 7 50 2 50 9 50 5 53 4 51 2 53 1 52 3 52 1 47 8 52 0 52 0	$\begin{array}{c} +\ 1\ 5 \\ +\ 0\ 1 \\ \\ -\ 0\ 8 \\ \\ -\ \\ -\ 1\ 5 \\ +\ 2\ 3 \end{array}$	26 1 25  7 23 28 1 3 8 25 7 19 17 8	87 5 82 0 84 1  83 0 82 0 52 0 55 0 73 8 79 0 86 0 84 0 84 0 84 0 81 0	26 27 26 27 25 27 25 27 27 27 27 27 27 27 27 27 27 27 27 27	23 5 0 25 0 21 0	13 13-15 13 13-15 13 13-15 13 2-14 13 13 13 13 13 13 12	24.2 22.8  24.3 21.8 22.0 21.9 23.2 19.5 20.7 21.5 20.7 21.6 22.4 22.4 22.4	4 50 4 96 2 94 5 86 2 03 3 09 2 39 3 74 4 64 4 17 2 26 4 05 0 93	$\begin{array}{c} +3 & 01 \\ +1 & 64 \\ - \\ +1 & 24 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ $	1 19 1 60 0 62 1 50 0 52 0 73 1 64 1 10 1 16 1 25 0 48 1 57 0 40	19 12 19 17 11 20 7 7 14 13 19 15 5	$\begin{array}{c} 12\\ 19\\ 12\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	2	2	
Pier Rad River Almesspa Morden Oak Bank Stony Mountein Wonnies	19 1 19 1 49 5 50 4 49 5	7 96 42 ) 97 14	978 801 803 760	52 4 51 8 51 9 50 5 53 1	+ 2 0 + 3 1 - 0 4 + 2 4	10 7 17 32 38	85 0 83 5 82 0 85 0 85 0	26 27 26 26 26-27 26	28 0 30 0 29 0 25 0 25 8	13 13 12 13 13	23 6 21 0 19 8 24 7 22 4	4.91 2.02 2.48 2.25 3.59	10 63 +0 84 +1 58	2 04 0 90 0 58 1 00 1,59	13 11 12 3 15	18 20 19 28 16	3	6 2 3	

### DEPARTMENT OF MARINE AND FISHERIES, CANADA: -METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATION'S IN THE DOMINION OF CANADA, MAY, 1912 \*Stations not furnished with Registering Thermometers

							-	Гемрен	ATURE,				PRE	IPITATI	on.					
STATION	N stantage		Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Ar's observations.	Highest	Date	Lowest.	Date	Nem dady range	Amount	Difference from average.	Heaviest fall in month.	Days with 01 or more.	No of fair days.	No of agroras	No of thunderstorms.	No. of fogs.
MaxitoBA—Continued																_	_	_		
Dauphin Lake and River Dauphin	51 51 72	15 18	99 33 97 23	957	45 4 49 3	_	6	N5 11	26 27	25 0 25 0	13	15 5 15 7	2 90 2 46	_ 	0 47	9	22 18	4	2	,
Lake Winnipegosis Swan River The Pas	52 53	40	101 15 101 15	1112 860	57.5	_		82.0	25	2.1	19	20.7	r 56		n 34	5	26			
Ontario-																				
The Lake Superior Districts																				
Rainy River Kenora	49	1.	94-32	1102	49-4	_	15	52.0	20	20.0	5.7	17.5	5.46	_	3 05	9	22	3	4	
Thunder Bay Kakabeka Falls Port Arthur Schreiber	48 48 45	27	89 26 89 12 87 15	912 644 933	45 5 45 1 46 9	- " ;	31 14	55 0 74 0 74 2	25 25 30	22 2 25 0 22 5	14 14 14	26 9 19 2 25 7	- 45 1 03 2 13	- 0_86	0 65 0 54	14 13	17 18 22	3	1	
Algoma Bruce Mines Copper Cliff Porcupine Providence Bay White River.	46 49 45 45 45	15 31 22 4 33	83 55 80 59 81 18 82 14 85 16	595 -	50 5 51 9 48 5	+ 0 \	14 5 -	76 0 79 0 83 5 70 0	26 31 31 30	25 0 19 0 21 5 26 0	14 14 11- 14	21 3 21 1 21 1 —	4 14 3 62 — 1 24	+1.94 =	1 38 1 12  0 50	10 7 6	21 24 25		1	
Nipissing Cochrane Haileybury Montreal River	47 47	29 1	81 0 79 39 79 29	946 687	45 3 50 3 49 3	+ 0 0	2 18 2	\$1.5 79.5 84.0	26 26 51	22 H 25 H 22 H	5 13 14 1	25 6 24 9 20 5	3 37 4 30 4 07	+1 20	1 74 1 43 0 93	7 13 11	24 18 20	1	3 3 1	
Upper Ottawa River Lake Talon (Rutherglen) Stonecliff (Rockliffe)	46 46		74 45 75 6	557	52 2 51 4	+ 0 c - 0 7	17 35	79.5 79.0	30 11	25 n 24 n	1 15	25 6 26 6	6 39	+3 34 +1 73	1 51 0 54	13 13	18		5	
Upper St. Lawrence and Lower Ottawa Rivers Almonte	45 43 44 44 45 45	13 56 26		390 260 2×5 294 416	55 2 54 1 53 9 54 1 	- 1 2 - 1 2 - 0 4 - 1 1	3 5 29	72 7 81 0	25 24 5 1 8 8 1 8 8 1 8 8 1 8 8 1 8 8 1 8 1 8	31 0 33 0 37 6 33 0 34 4 25 2	1-4 14 1 1-15 —	20 3 18 7 15 1 21 1 17 9 22 9	5 42 4 02 5 71 5 66 2 20 5 78	+3 44	1.48	18 11 16 14 6 16	17 25		3 1 1 2 3 5	
Georgian Bay Counties Bartre Beattree Coldwater Coldingwood Elors Gravenhurst Huntsville Markdale Midland Orillia Owen Sound Parry Sound Ronville Shelburne Uplands	145 145 145 145 145 145 145 145 145 145	31 31 31 41 54 19 44 37 44 37 44 19 15 15 15	80 C 78 57	1274 1274 1 1274 1 750 1 755 1 755 1 635 1 1038	52 1 53 0 52 5 54 5 52 3 53 7 53 3 — 52 7 53 6 50 7	+ 2 3	23 18 15 15 35 10 10 36 36	\$1.00 \$1.00	25 24 25 24 24 24 24 24	26 6 23 9 26 9 27 0 28 0 25 0 27 0 28 0 26 0 26 0 26 0 26 5 7 26 5 7	14 3 1 14 1 13 14 14 14 14 11 14 13 14 13 14 14 15 14 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	25 3 3 20 3 21 4 21 0	5 86 4 06 4 27 5 06 5 06 4 12 4 12 6 06 6 74 6 84	+3 101	0 99 5 2 00 5 1 72 9 1 19 2 04 0 55 1 37	14 13 11 16 13 16 14 7	18 20 15 18 15 17 24 14 17 19		4 1 1 3	
Lake Huron Counties Birnam Clinton Clinton Goderich Lucknow North Bruce Point Clark *Sarnia Southampton	43 43 43 44 44 44 44 44	3 22 3 22 3 45 3 56 4 23 4 5 5 59	81 53 81 41 81 30 81 4 81 20 81 4 82 23	6 600 - 1 0 905 5	56 4 2 53 9 53 2 52 3 55 53 2	+11	) 25 9 1 3 20 1 21	82 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	23 24 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	31 6 28 0 31 0 26 9 32 0 32 0 34 0 29 6	1	18 8 19 4 18 1 21 3	1 72 6 15 6 15 6 15 7 15 7 16	+3 8	-		13 11 13 17 23		6	
Lakes St. Clair & Erie,																				
Niagara Peninsula Chatham Cottam Crimsby Peles Island Port Barwell Port Dover Port Stanley St. Catharines Stoney Creek Wallaceburg Welland Windbam Centre	And the sale and the sale and the sale and	2 7 15 15 1 50 2 39 2 27 2 40 5 9 13 2 35 2 59	82 43 79 36 82 33 80 53 80 13 81 13 79 13 79 43 82 2 79 13	5 555 5 592 6 635 5 592 7 347 5   292 4 577	58 59 55 00 54 6 55 54 5 54 5 54 5 54 5 54 5 54 5 5	+ 0 + 1 - 0	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	\$68555200 00 \$68555200 00	15-25 24-44-4-20 20-22-7-2	22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		28 1 20 1 10 2 17 8 18 3 24 7 17 6 23 8 24 8	3 35 4 73 1 95 2 67 3 68 2 36 4 60 4 12 4 44 3 1	1 -0 7 1 -0 7 1 +0 9 3 -1 0 1 +2 4 1 +1 2 4 -1 2	1 61 7 1 02 1 16 2 0 66 3 0 54 5 1 64	13	1 17 5 26 5 22 5 16 6 14 7 14 7 19		2	

### DEPARTMENT OF MARINE AND FISHERIES, CANADA:—METEOROLOGICAL SERVICE.

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MAY, 1912.

									Тимг	ERATUE	Œ			PRE	CIPITAT	ion !	ore.			1	
STATION	2	Light Gare av.	I committed W		Elevation above sea	Mean	Difference from average.	Yr's Observations	Highest	Date.	Lowest.	Date	Mean darly range.	Amount	Difference from Average.	Heavest fail in month.	Days with 01 or more.	No of fair days.	No. of auroras.	No. of thunderstorms.	No. of fogs.
ONTARIO—Continued—																					
West-Central Counties  Altm Brantford Guelph Lombon Paris Statford Woodstock		51 10 33 59 12 23 8	80 80 80 81 80 81 80 81	5 21 16 13 25 0 47	125/1 75/1 105/1 808 849 1191 980	57 7 55 7 58 0 56 3 53 7 56 9	$\begin{array}{c} +\ 2\ 1 \\ +\ 2\ 6 \\ +\ 1\ 5 \\ +\ 3\ 8 \\ -\ 0\ 9 \\ +\ 3\ 3 \end{array}$	32 25 27 23 45 37	82 0 76 0 83 5 79 0 76 0 79 0	23 28 23 7-25 8 23	31 0 30 6 30 0 32 0 29 0 31 0	13 14 14 14 14	22 4 19 2 54 2 22 2 19 3 22 4	5 04 5 63 4 42 5 59 8 60 5 29	+3 02 +2 56 +2 78 +2 43 +5 72 +2 48	1 79 2 02 1 57 1 68 1 51 1 41	14 9 12 13 13 16	17 22 19 18 18 15		5	i
Lake Ontario Counties																					
Agine ourt Aurora Hamilton Lorne Park Torouto Torouto 18 (Lakeside Home) Exbridge Weshird	13 13 13 14 13 14 14	47 57 16 43 40 40 5 44	79 79 79 79 79 79 79 79	16 24 54 13 21 21 8	590 886 303 350 886 555	54 2 54 2 55 4 55 3 40 9 55 0 52 7	+ 0 2 + 0 1 + 1 7	18 4 37 71 8	83 2 81 3 85 0 82 0 75 0 82 0 77 0	23 23 23 23 24 23 23-25	29 1 27 5 32 5 31 7 34 0 30 0 29 0	14 14 14 14 14 14	19 9 22 7 18 2 19 3 15 7 20 7 18 7	6 51 6 40 5 92 5 80 6 58	+2 95 +3 62 +3.07	1 57 2 43 1 19 1 32 2 16	16 7 16 17 13	15 24 15 - 14 18	2	3 5	5
East-Central Counties																					
Brineroft Haltburton Kunin steit Lakefield Landsav Widoe Peteelsoro' Usa.	and the second s	1 45 25 20 30 17 54	27323773	50 28 38 15 45 29 19 18	1050 920 850 872 575 722	52 1 53 7 51 7 55 1 55 1 55 0 55 5	+ 0 \$ + 1 0 - 1 3 + 0 9 + 1 3 - + 0 2	21 23 13 25 32 7 43	81 0 84 0 78 0 82 0 80 0 80 0	28 29 23 25 25	25 0 24 0 28 0 33 0 30 5 29 0 31 0	14 14 14 14 14 14	25 7 25 7 22 7 18 2 15 3 21 9	4 26 11 57 7 09 8 23 9 45 5 92 6 77	+1.19 +8.60 +6.89 +4.11	0 90 1 40 1 56 2 47 1 68 1 23 1 89	9 15 16 8 18 17 13	22 16 15 23 13 14 18		1 6 7 3	
QITEARC— Middle St, Lawrence																					
Brome Cyp Rouge D'Iscach Montreal Quebec Sto Anne de Bellevue Shawungan Falls Sherbrooke	45 45 45 45 45 45 45 45	10 46 55 30 48 27 34 32	72 71 71 73 71 73 72 72	36 18 21 35 13 59 43	678 896 187 296	53 8 51 3 54 5 56 3 52 6 55 6 48 8 54 0	+ 1 3 + 1 1	31 2 5 37 37 6 9	82 0 80 0 84 5 81 0 81 4 85 2 77 0 81 6	28 22 25 25 26 29	24 0 26 2 30 0 35 5 30 6 34 8 26 0 27 8	4 15 3 14 3 14 6-20 3	21 2 20 4 19 6 16 5 19 7 18 3 23 5 21 8	8 69 8 08 5 26 5 95 6 93 5 77 5 55 6 18	+5 41 -3 16 +3 78 -	2.68 2 17 1 15 1 50 1 44 1 38 1 11 1 88	13 14 12 17 15 18 14 15	18 17 19 14 16 13 17 13	1 2	7 3 5	1
Lower St. Lawrence & Gulf																					
Anticosti, E. Pt. Anticosti, S.W. Pt. Anticosti, W. Pt. Brequet Cape Chatte Cape Chatte Father Point	49 48 19 49 45	52 25 6 16 31	61 68 66 65 68	32 53 45 20 19	30 30 30 93 20	39 2 41 1 50 4 44 9 45 2 45 6	$\begin{array}{c} + \ 3 \ 0 \\ - \ 0 \ 5 \\ + \ 0 \ 3 \\ + \ 1 \ 3 \\ + \ 1 \ 3 \end{array}$	30 29 30	50 0 58 0 76 0 66 0 70 0 70 2	25 12 26 28 28 13	32 0 29 0 32 0 34 0 32 0 26 0	22 22 22 4 22 1		3 40 39 8 2 83 4 55 3 93 4 80	+1 18 +0 33 +2 48 +2 38 +1 84	1 84 0 75 0 55 1 50 1 30 1 27	14 11 4 8 16	26 17 20 27 23 15		3	8 2 6 3 1
Lake St. John																					
Cheoutini Cheoutini (2) Lake Fdwird La Tuque Mistassini Roberval	47 47 48 48	25 33 54 31	71 72 72 72 72 72	5 48 15 13	1333 520 360 352	48 9 48 3 48 4	- 0 4	3 # 2 2 1	82 0 76 5 87 0 81 0	27 28 30 25	22 0 22 9 25 0 25 5	22 20 20 20 20	24 4 24 6 21 6	1 90 6 23 5 67 3 84	_0 94	0 60 - 1 15 1 03 0 50	7 15 13 13	16 18 18	2	1 2 2 2 2	3
The Northwestern Districts																					
Abitibi Manomin Crossing Weymonthelangue White Shore Lake	18 17 18	33 54 12	79 73 75	22 50 43		47 8 45 8	+ 1 2	16 1	74 0 75 0 76 0	26 12 26-27	22 0 15 0 17 0	5 15 5	22 8 1 26 3 25 0	4 97 5 55 5 54	+1 76	0 98 0 78 0 88	10 12 15	21 19 16	6	3	
The North Shore																					
Clarke City	1 50	10	66	25		43.9			74 0	27	21 0	1-2	21 0	3 91		1 46	12	19			
New Brenswick-	1																				
Chatham Dalhouse Fredereton GrandManan Weneton *Point Lepteury S-John St Stephen Susses	477 48 15 111 16 45 45 45	9 4 17	66 66 64 66 + 66	29 22 36 46 45 25 4 16 38	21 39 164 49 50 30 70 35	52 4 19 7 52 3 51 6 46 0 48 9 52 9	0.4	40 15 31 39	83 0 83 0 56 0 67 6	27 26-27 27 27 27 27 19 28 27	26 0 22 0 28 0 24 0 33 0 34 3 26 0 25 0	5 20 6 6 6	24 6 23 7 24 8 23 3 	6 88 2 21 2 60 4 07 6 75 7 49 4 43 5 33	-0 57 +1 69 +2 67 +3 58 +2 16	2 50 0,70 0 75 1 25 2 81 2 75 1 54 2 16	10 6 6 7 7 7 13 10	21 25 25 24 24 18 21 24		2 2  2 3 1 2	10 6

### DEPARTMENT OF MARINE AND FISHERIES, CANADA; -METEOFOLOGICAL SERVICE.

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MAY, 1912

\*Stations not furnished with Registering Thermometers

			ras.				T1.M1	ERATEL	.1			Pia	CIPITAT	707				5	
STATION	9	Longatude	Lievation above se level, in feet	Mean	Difference from	] Yr - Observations	Inchest	Pare	Lowest	Pate	Mean daily range	Minable	Difference from	Heavest fall in month	Days with 01 or mo	No of far days	No. of Auroras	No of thunsherstorms	No of fors
Nova Scotta-	, ,													i					
Antigonish Haldaya Kontyula Ko		61 59 63 36 61 22 61 22 60 10 63 18 61 8 64 6 64 20 66 2	58 40 40 45 25 25 27 29 90	50 8 51 4 52 8 16 4 47 6 43 1 49 3 51 4 42 7 51 9 50 3 49 5	+ 1 5 - 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10	\$0.4 d d d d d d d d d d d d d d d d d d d	27 27 30 15-27 20-30 28 28 28 28 29 25	24 0 24 0 23 0 15 0 21 0 25 4 25 4 25 0 26 0 27 8	6 1 1 23 23 23 1 6	25 n 17 5 20 1	5 44 2 42 2 51 4 54 5 60 2 1 45 2 18 4 10 3 13 2 38 5 18		1 56 0 82 1 23 0 70 1 75 0 54 0 52 1 07 0 09 0 75 0 69 1 20	10 3 4 3 10 13 5 11 11	27 23 25	1	1 1 1	2 5
P. E. ISLAND-																			
Charlottetown Charlottetown (Exp. Farm Hamilton		63 10 63 7 63 48	25 75	49 8 50 5 49 6	$+\frac{1}{2}\frac{5}{6}$	- 9	75 0 79 0 77 3	25 27 28	27 5 27 0 27 0	1	17 5 19 3 19 5	2 74 2 64 2 51	_0 02	0 % 0 % 0 92	10 9 7	21 22 24	1	2	
Newfoundland — Attour Point — Burin — Cupe Norman Fo.50 , Point Riche — Port aux Basquos  St John's ,	47 0 51 38	53 51 55 10 55 52 54 17 57 25 50 10 52 42	30 35 27 125	34 6 36 0 45 3 39 1 40 2 18 0	- - + 5 3	3	48 0 48 0 72 0 63 0 54 5 79 0	28 14 16-29 28 11 13	27 0 27 0 27 0 27 0 27 0 27 0 27 0	20 23	15 3 11 7 21 0	2 41 1 99 2 24 2 69 3 21 2 79		1.09	10	24 21 18 26 21 18			1 3 7 6 6
Labrador — North West River				35.1		_	60 0	11-31	20.0	20	17.2	_	_						
Berwida— Prospect	32 17	64 16	151	69.5	+ # 7	21	75.0	26	56 6	7	10.7	1.70	<b>-9</b> 69	0.52	9	22		3	

		R.3	ANFAL	L.			SNOW	FALL.		REMARKS
STATIONS.	Amount in inches.	No of Days 01 or over.	No. of Fair Days	Heaviest Fall in Month	Date.	Amount in inches.	No of Days.	Heaviest Fall in Month	Date.	
RITISH COLUMBIA — Alkah Lake	0.07		24	0.33	20					
Annis et anor i caner	0 67 1 97 6 52	12 4	19 27	1 00 0 16	23 26-27					
Armstrong Akanina Beaver Lake	1.45	6	25	0.70	19					
Ca-putlain Denman's Island	2 45 1 51 1 71	10 11	21 20	0 61 0 91	3 20					
Ferguson Goldstream Lake	1 71 1 83 1 15	6 10 6	$\frac{25}{21}$ $\frac{25}{25}$	0 54 0 90 0 45	26 20 27					
Hydraule fordan River fordan River (Bear Creek)	2 07	13 12	18	0 36 0 61	26 28					
Little Qualicum (French Creek, VI) Monte Creek	1.93	6	25	1 25	20					
Monte Creek Naas Harbour	0 27 5 46	3 8	28 23	0 23 0 50	23 2					
skidegate Shawnigan Lake	2 11	11	20	0.64	20 22					
Wycliffe	0 61	5	26	0.34	22					
Bardo	1 15 0 29	2 5	29 26	1 05 0 15	28 27					
Bismark Bruederheim Bittern Lake	2.63	14	17	0.94	27					
Brooks Campsie	2.70	12	. 19	1.81	19				1834	
Caldwell Conjuring Creek	3 21	7 6	23 25 21	0 57 1 52	21 27 29		1	•	1	
Dorenlee Dunstable	2 48 1 75	10	20 30	1 50 0 61	29 25 23					
Grassy Lake Jumping Pound	1.00	1	311	1 90				•		
Lacombe Loch Sloy	1.39	4	27	0.57	21					
Lyndon Linehatu La Royal	1 60	4 2 7	1913	1.20	23					
La Pearl Macleod Maycroft	0.68	8	24 27 22	0.38 0.31 0.46	21	*	1	d'	2	
Nateby Nanton	0.82	7	24	0 22 0 62	26					
Okotoks Pekisko	1 61 1 30	8	26 21	0.31	19 20	2*0	2	* 1 5	1 2	
Ponoka Sion	0 15 2 21	1 14	30 17	0 15 1 21	13 27 27					
Seven Persons Tilley	1 33		26	0.75					->-	
ASEATCHEW VN— Aberfeldy	1.03	7	24	0.31	4					
Gull Lake Gull Lake (Fks. Switt Cur.)	2 70 1 76	6 9	25 21	1 61 0 74	28 27	2 0	2 1	2 0	5	
Last Mountain Maple Creek	3 30 2 62	10 13	21 17	1 20 1 12	30 28	4 0	1	4.0	6	
Meadow Lake Nashlyn (Kelvinhurst) Willow Creek	1 38	7	24	1 05	26					
	1 95	3	28	1 15	27					
lantona— Cartoright	3 97 4 46	15 11	$\frac{16}{20}$	1 84 1 25	26 27					
Deloraine Gretna Norquay (Swan Lake)	4 65	12	. 14	1.04			5	·	3-26	
Rapid City Rose Bank	4 41 4 81	13 9	18 22	2 06 2 37	28 7 27	1.				
INTARIO -				1						
Deer Park Dutton	5 55 0 89	13 5	18 26	1 88 0 50	21 13 24	. *	1	*	13	
Emsdale Fort Frances	6 85 1 65 6 75	15 14 18	16 17 12	1 64 0 46 1 33	14 17		. 3	*	13	
Georgetown . Granthum	4.19	16 15	15 16	1 46 1 10	21 29		3		10	
Grand Valley MacCue Orangeville	5 79 6 22 8 01	11 16	20 14	1 41 1 22	29 21		1	*	14	
Sydenham Strathroy	6 22 4 03	10	24 21	0 98	22 21					
Watford Westport	3 S1 5 11	11 10	20 21	0 60 1 50	· 21-29 17					
Westminster Wooder		5 13	26 18	1 24 1 81	21 30	1				
Wesley Wattenwyl	6 33 7 57 5 59	17 13	13 17	2 22 1 47	29 28 22	3.7	1	3 7	14 13	
Wigiton SURBEC-	16.58	7	23	2 05		3.0	1	3 0	13	
Kipawa Lacerne Robert Mall	4 06 5 21	11 7	20 24	0 98 2 00 1 21	11 29	19.5	2			
Perkins Mills Quinze Dain	5 % 5 91	14 9 8	17 22 23	1 21 1 20 0 96	29 13 12	8.0	2	8 G	14	
Tronskaming New Bio Nswick— Point Escaminac	4 08 5 20	7	24	2 70	31					
Nova Scotty— Big Mushamush Lake (Ma		,	-1	1						
hone) Kentville	2 42	. 10	. 21	0.82	. 16					
Kedgemakooge Lake (Nev Grafton)	1						0			
Milton Mushamush River (Mahone	5.95	7	24	2 55	30*31				- :::	
New Germany			22 25	1 07	17 17					

### DEPARTMENT OF MARINE AND FISHERIES, CANADA. METEOROLOGICAL SERVICE.

PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF MAY, 1912

a Barometer not reduced to sea level

			g	Pres	SURE	nidity	cloud	completely			Dine	11.0	o o p. V.	151 F	304			\ :	0 171 0F 0 171 0F
STATION	Latitude N.	Longitude W	Elevation above sea level, in feet.	Mean reduced. Highest	Lawest	Mean relative humidaty	Ξ.	No of days comp	7.	= / .		· · · · · · · · · · · · · · · · · · ·	= -	= :	N.M		observations	Mean trades per hour	Maximum velocity Date and direction from
BRITISH COLUMBIA— Atlin. Barkerville Kamloops a Nanaimo Prince Rupert Triangle Island a Tranquille. Vancouver Victoria.	154 18 13	0 18 9 5 0 29 3	170 680	29 94 30 3 29 95 30 4 29 91 30 3 29 94 30 2 29 96 30 2 28 61 29 0 30 34 30 3 30 30 30 3	29 45 # 91 29 57 0 70 29 53 0 72 39 53 0 72 49 64 0 73	25	3	1 3 4 4 16 2 4 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	10 10 10 10	1 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7 0 1 11 0	30 min 20	20200 T08	11 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	22.50 25.50 15.50 15.50
YUKON— Dawson .	64 4 1	19-20	1200	29 84 30 4	1 29 50 4 11		4	1	!		1			-	1	\$11	0.5		1.1.8
ALBERTA— Banff Culgary Edmonton Medicine Hat	51 10 11 51 2 11 53 33 11 50 1 11	15 34 14 2 13 30 10 37	4542 3389 2158 2161	29 94 30 4 29 89 30 3 29 59 30 4 29 86 30 5	29 44 0 54 29 47 0 94	. 51 i tu		4 111 4	- 4 / /	8 1 2 2 1	4	1.7.2	1 4	(1 ) (1 ) (11 )	30	1 · 2 · 4 · 6	12 12 12 12	5 ×	
SASKATCHEWAN— Battleford Moose Jaw Prince Albert Qu'Appelle Swift Current	52 41 16 50 21 16 53 10 16 50 30 10 50 20 10	18 20 15 35 16 0 13 47 17 45	1620 1759 1432 2115 2439	29 84 30 4 29 84 30 4 29 88 36 4 29 84 30 4 29 54 30 5	29 46 1 06 29 29 1 26 29 45 1 06 29 28 1 21 29 37 1 16	1 1			17	13 15 15 21 3	; 14 10 4 1	1 ;		: 15 : 15 : 18	24 7 4 10 18	13 15 13 0 5	98 96 80 80 82 90		
MANITOBA—  a Aweme (St. Alban's)  Minnedosa  The Pas  Winnipeg	49 42 99 150 15 99	9 33 9 50 91 15	1180 1699	29 63 27,9 29 86 30 3 29 88	: 29 21 1 25 3 29 17 1 30 9 29 1/ 1 4		,	7	2	1 - 10	; 4	P	1	1 4		19	62	14	5 5 1 50 5 8E
ONTARIO— Cochrane Haileybury Kingston London London Parry Sound Port Arthur Port Stanley Southampton Stonechiff Toronto White River Woodstock	49 2 7 7 44 13 7 42 59 8 45 26 7 8 45 27 8 42 40 8 44 30 8 46 9 7 43 40 7 48 35 8 43 8 8 6	1 13 5 42 0 0 9 12 1 13 1 21 8 6 9 24 5 16		29 94 30 3 29 94 30 2 29 32 30 2 29 90 30 2 29 90 30 3 29 93 30 3 29 91 30 2 29 92 30 2 29 83 30 2 29 32 30 2	6 29 44 1 0. 8 29 0° 0 96 6 29 52 0 74 2 29 51 0 74 6 29 44 0 8 0 29 45 0 8 3 29 44 0 8 9 29 34 0 8 3 29 52 0 74 1 29 40 8		5 10 17	10 10 11 12	11. 23. 1.4 11. 20. 1.4	1 20 40 1 1 1 1	6 4 1 2 2 2 4 9 10 9 2 1 2 1 1 1 1 1	11 2 10 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 - 5 × 1 - 5 0 c	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 6 4 4 12 6 0	200000000000000000000000000000000000000	62 62 62 62 62 62 62 62 62 62 62	H H H E E E E E E E E E E E E E E E E E	21   13   N 1V   27   8W 28   21   8W 10   16   17 21   2   N I. 22   2   N I. 23   25   8W 37   13   N I. 1   19   W 2   16   I. 2   28   8W
QTEBEC- Father Point. Montreal Quebec	48 31 64 45 30 75 46 48 7	5 19 3 35 1 13	20 187 296	29 87 30 2 29 91 30 3 29 91 30 3	5 29 41 0 8; 0 29 41 0 8; 7 29 44 0 9;		é b	11	3 1	16 2+	25	1. 1. 1.	11	5 15 16 16 16 11	6	1	0.00	1) 13 15	4 14 W 3 14 W 4 0×11
NEW BRUNSWICE— Chatham Fredericton Grand Manna St. John	47 3 66 45 57 66 44 47 66 45 17 66	3 36 46	21 164 49 70		2 29 34 1 05 7 29 38 0 85 6 29 32 1 05		f 6	5 5 10	2 8 6	4	12	5		10 P	18	1	hi hi	s 5 11	#200 m #200 m #840 m
Nova Scotia— Halifax Sydnoy  Wolfville Yarmouth	44 39 6 46 10 6 45 7 6 43 50 6	10	88 35 65	30.00 30.4 29 93 30.3	2 29,39 1 05 1 29 40 1,05 9 29 32 1,05 6 29,28 1 15		, fi	11	21 0 11 11	14 12 12 4	1 11 11 11 11 11	1 5	1 1 1 12	21 11 21 3 11 11 11	4 1 9 4	0 2 2	6256	1.	06 14 8W (8 10 8W 21 11 8W
P. E. ISLAND Charlottetown	46 14 68	3 10	38	29,98 30 1	4 29,39 1 03	;			10		2		11	.2 (	11		h.	٨	24 14 5
NewFoundland Burin Fogo Port aux Basques St. John's	47 0 55 19 43 5 47 35 5 47 34 5	17	27 30 27 125	29.93 30 4 29.98 30 3 29.89 30 3	6 29 46 1 0 5 29 43 0.00 2 29 41 0.90				3	\$ 10		5 1 1		11 15 1 1. 1 20		4 0	600		12 - 9 1 2 - 5 × 1
RERMUDA Prospect	32 17 6	46			0 29,88 0.5.				10	i	11							11	HeF()

### DEPARTMENT OF MARINE AND FISHERIES, CANADA:-METEOROLOGICAL SERVICE.

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF MAY, 1912

			DIR	ECTIC	ON O	F WI	ND F	FROM		
STATION	ź	N.E.	ū	S. E.S.	Ś	S.W.	W.	N.W.	ij	Total number of Observations
Alberta— Athabasca Landing	1	2	8	1	0	0	13	16	0	31
Didsbury Fort Resolution	4	0	2	3	$\frac{\dots}{2}$	3	15	2	0	31
Halkerk (Emsburg) Hillsd <b>o</b> wn	8	8 13	5 0	12 1	6 5	7	7 1	9 33	() (i	62 62
Loveland	0 8	9	0 3	2 0	1	6 0	13 13	12 0	0 7	31 31
Pakan (Victoria) Parkland	7 1	16	0 3	0	7	13 7	11 6	5 6	3 2	62
Ranfurly (Waitefield)	18	7	7	4	2	6	12	26	11	93
Saskatchewan— Chaplin	0	3	2	0	0	1	5	20	0	31
Crescent Lake Estevan	1	14 7	2 2	()	4	1 3	4	5 3	0	31 31
Grenfell (Brownhill). Indian Head	1 3	21 27	6	9 10	1	10 16	2 7	12 14	0	62 93
Larchmount (Glenbryan)	1	17	7	1	ŏ	8	16	12	ō	62
Moosomin	2	3 19	8	4 0	7	2 20	3 7	1 15	0 .	62
Onion Lake	4	10 7	3	7	()	1 7	11	2 7	0	31 31
Waseca										
Manitoba— Berens River										
Brandon	11	35 18	12 19	5 7	1	17 14	5 6	12 18	. 5 . 0	93 93
Moose Horn Bay (Aitkensville)	6 11	16 11	12	1	4 3	8 3	5 6	5 12	5 5	62 62
Oak Bank	13	i	$_{\perp}$ $^{\prime}$	3	5	4	2	ĩ	0	31
Stony MountainONTARIO—								' <b></b> 		1
Agincourt Alton	2	4	29	8	8	17	5	18	2	93
Beatrice	9	0 9	1	10 10	15 14	7 1	3	12	36 4	93 62
Clinton	8 15	ĩ	12	-4	8	4	14	11	O	62 62
Cottam		0	7	5	20			3	0	62
Lindsay	7	9	17	7	26	1	18	8	0	93
Orillia Owen Sound						:				
Point Clark	13	1 2	13	7	18	5	4	1 2	0	62 31
Port Dover			6	3		4				
Stoney Creck Uplands	0 8	39	6 2	5	7	23	22 9	3	0	93 31
Wexford	0	1	13	1	2	3	3	4	4	31
Abitibi Anticosti, W. Pt	27 11	8	14 12	1 3	9 25	6 5	20 13	2 18	0	87 93
Anticosti, Heath Point Bicquet		32			15	25	19	8	0	93
Brome	13	2 0	9 20	0	31	5 3	30	1 0	2 26	93 93
Cape Chatte Cape Magdalen	3	- 6	4	2	() 19	2	0	40	17	93
Chicoutini	0	18	()	43	30	28	0	;3	1	93
Dalhousie Moncton	()	0	18	0 7	1	0 5	11	0 10	0	30 21
Pt. Lepreaux	3 0	5 8	18	20	21	18 5	8	6	0 12	81
Sussex Nova Scotia –			Đ.							
Kentville	2 0	4 7	2 0	0 4	6 4	3 14	12 0	2	0	31 31
Sable Island, E. Pt. Truro	I	1.4	0	14	2	46	0	16	0	93
Whitehead	14	4	6	7	17	39	1	5	0	93
PRINCE EDWARD ISLAND Hamilton	1	0	4	()	3	16	2	5	0	31
	i i	I		4						

### MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN LACH BOUR OF THE PAY IN THE MONTH OF MAY, 1812.

			_						Hou	is Eni	dNo.							
STATION.	4аш	5 a m.	6 a m-	- a m	s m.	E e e	10 a m	П з ш.	Norm	1 p m	Ed		-	10 4 5	E 4	E 4.	in d v	1 N 10
Victoria		,	_08	36	43	45	52	55	62	56	1/8	fige		55	15	25		
Salmon Arni			20	44	17	56	65	6å <sub>1</sub>	$\{ z \}_{j=1}^{n}$	F-1	$G_{n}^{-1}$	58	112	12		12	- 5	
Nanaimo				10	32	37	14	50	54	33	51		54	57	48	18		
Vancouver,		01	27	36	43	46	47	59	57	611	+1	63	58	51	51	33		
Agassiz				.25	36	46 ;	12	40	51	50	54	P	41	ã0	18	HG 1		
Tranquille			,23	60	68	72	75	76	70	64	68	2	63	48	11	18	0.2	
Summerland		.07	41	45	52	61	7.5	122	68	58	65	0.2	12	55	57	21		
Kamloops			09	.30	53	62	63	159	68	7.1	~(I)	74	65	53	3%	14	02	
Edmonton		10	42	60	55	61	n()	62	65	58	59	61	CIL	62	52	3.3	10	
Lethbridge		14	. 49	60	66	69	69	74	73	72	Eh	70	62	bit	54	200	08	
Lacombe		08	46	. 54	.69	58	55	(7)	61	65	57	55	56	35	11	57	1 -	
Medicine Hat		09	40	53	59	61	63	67	69	13	62		59	56	12	37	1.6	
Fort Dunvegan		08	66	.69	.71	7.5	80	82	72	7.2	17	66	59	73	61	17	10	
Fort Vermilioa		.01	04	\$(1	66	86	87	90	· 5	82	30	1.5	79	68	50	30	13	
Battleford			.03	15	41	55	57	61	h3	.60	6.3	1,2	60	56	47	10		
Indian Head			.18	.36	35	39	13	41	47	49	10	.17	33	29	31	23	412	
Moosejaw		.14	.39	52	.57	56	58	54	57	58	45	5d	50	15-	55	16	11	
Scott	20	45	.50	53	57	61	65	62	66	.65	58	57	55	52	46	13		
Rosthern		10	. 28	46	53	53	50	54	54	63	12	6.1	7.1	57	51	50	25	
Brandoa			.02	. 27	45	47	51	1.5	59	60	59	.52	19	39	28	15		
Winnipeg		01	23	.40	42	50	5%	5.	57	1.2	67	, Fo	48	. 19	46	21	62	
Haileybury		.02	.39	52	$\epsilon_1$	62	(5)	57	ā.s	50	56	.55	52	.52	47	12	0%	
Woodstock			08	.32	41	52	5.4	57	61	59	5n	52	5.3	53	52	10		
Lindsay			1	. 24	.31	37	12	19	50	54	52	17	51	47	29	61		
Barrie			. 13	25	36	44	44	40	49	11	13	.45	16	11	39	fiel	0.2	
Toronto			.07	12	.29	36	51	ãt,	65	hh	55	51	51	50	10	16		
Kingston		01	29	44	14	45	48	51	54	52	57	5×	55	45	37	22		
Ottawa		_01	.29	.42	.45	.56	57	â9	bil	56	55	.63	11	41	12.4	20	112	
Montreal		.03	29	42 (	42	17	47	50	5.5	50	61	56	46	42	31	09		
Cap Rouge			-28	49 ,	48	51	52	18	51	47	46	50	19	45	0.8	25		
Quebec			23	.46	45	.50	54	7.2	.52	48	51	55	51	13	1.8	19		
Sherbrooke		.06	41	45	42	47	50	53	58	bill	56	59	15	19	17	30	01	
Fredericton		.01	. 25	.32	37	44	50	52	50	63	59	59	56	35	47	50	01	
Charlottetown		.03	38	.47	.50	.58	62	61	52	58	57	.61	59	53	45	5.2		
		.00	00		.001	.00												

		-																																
	Victoria.	Salmon Arm.	Nanaimo.	Vancouver.	Agassiz.	Tranquille.	Summerland	Kamloops.	Edmonton.	Lethbridge.	Lacombe.	Medicine Hat.	Fort Dunvegan	Fort Vermillon	Battleford	Indian Read	Moose Jan	Scott	Restlern	Browlen	Mirmore	Hade bary	M. certail.	(Lind-av	Ratne	Tobatta	Miresta		M. et e.	C p Boyer	Quelia	Springenham	I re letterten	Charlottetown
legistered duration in hours	212	239	176	215	169	252	248	228	252	279	246	251	306	290	203	157	232	155	246	187	211,	2.04	200	150	165	151	24.1	, cd	: 0	154	1: 1	211	,900	
erceatage of pos- sible duration %	45	50	37	45	36	52	51	17	51	58	511	53	+-1	58	41		151	52	36		11		41	35	31	10	12	11	ţi.	11	11	11.	15	40
oifference from average %	+3		7	_	+4	-	_	_	_	_		_	_	_	- 6	15				- 1			1 -	-11	ţ)	`	ь	ì					1	
Iaximum percent- age in one day %	67	90	78	90.	. 80	92	90	79	85	96	50	91	95	80	80	85	95	HID					٠.					4-3		4.2	* 1	93		
Date of maximum	7	12	2:0	7	12	14	8	28	13	28	- 6	28	10	30	7	25	-	4	21	5		15		10	11	-1	100	1		-1	}		- i	- 6
completely cloud-	3	,	6	3	10					.,		,	9		,		li li	i						5	5			6			6.	ł		

1	11	roras	171	ord	11	

- 1.
- 2. Sion.
- 3. Sion.
- 4. White Shore Lake III, Quebec IV.
- 5. Chieontimi.
- 6.
- 7.
- 8. Mistassini IV, Sion.
- 9. Mistassini III, Sion.
- Sion.
- 11. Cartwright 41. Aitkensville 41. Aweme 41. Kakabeka Falls 4. Brandon, Schreiber 41. Waitefield 4, Sion, Montreal 411. Quebec 4V. Charlottetown 4V. Yellow Grass, Muenster 4V. Halkirk, Kenora 41.
- Cartwright IV, Rapid City II, Aitkensville III, Aweme III, Kakabeka Falls III, Treherne III, Agincourt IV, Schreiber IV, Waitefield IV, Hillsdown IV, Minnedosa III, Yellow Grass, Pambrum II, Estevan, Prince I, Kenora II.
  - 13. Kakabeka Falls IV, Agincourt IV, Schreiber IV, Waseca, Crescent Lake IV, Kenora III.
  - 14. White Shore Lake III, Waseca, Pambrum I, Crescent Lake IV.
  - 15. White Shore Lake IV, Waseea.
  - 16.
  - 17.
  - White Shore Lake III.
  - 20. Aitkensville IV, White Shore Lake III.
  - 21.
  - 22.
  - 23.
  - 24. Sion.
  - 25.
  - 26.
  - 27.
  - 28.
  - 29. 30.
  - 31. Aitkensville IV, White Shore Lake III.

### Thunder Recorded:-

- 1. Mnenster.
- 2. Cartwright, Crescent Lake.
- 3. Cartwright.
- 4. Morden, Hamilton, Almasippi, Birnam, Treherne, Waitefield, Kenora.
- 5. Hamilton, Almasippi, Birnam, Brantford, Paris, Treherne, Winnipeg, Toronto, Dutton.
- 6. Mistassini.
- Cartwright, Rapid City, Wesley, Westminster, Perkins' Mills, Beatrice, Aweme, Midland, Quinze Dam, White Shore Lake, Almasippi, Birnam, Madoc, Ronville, Haliburton, Clinton, Lucknow, Treherne, Rutherglen, Ottawa, Southampton, Cochrane.
- 8. Rapid City, Westport, Agincourt, Chicontimi West, White Shore Lake, Madoc, Haliburton, Bruce Mines, Renfrew, Mistassimi, Hillsdown, Quebec, Halkirk, Oyen,
- 9. Cartwright, Rapid City, Westport, Aitkensville, Brome, Aweme, Almasippi, Treherne, Harmattan, Kingston, Rathmullen, Crescent Lake.

. 20 .

- Kakabeka Falls, Winnipeg, Kenora.
- 11. Rapid City, Deloraine, Haliburton, Port Arthur.
- 12. Wooler, Almonte, Madoe, Renfrew, Bloomfield, Port Dover, Toronto.
- 13. Brome.
- 14. Sussex.
- 15. Hydraulie.
- 16. Nanton, Deloraine, Yellow Grass, Crescent Lake, Lost River, Chagoness,
- 17. Brome, D'Israeli, Father Point, Quebec, Halkirk.
- 18. Wiarton, Beatrice, Birnam, Clinton, Port Stanley, Sonthampton, Chaplin.
- 19. Georgètown, Sion, Charlottetown.
- Georgetown, Stratford, Wesley, Westminster, Agineourt, Birnam, Brantford, Paris, Clinton, Lucknow, Port Dover, Port Stanley, Toronto.
- 21. Georgetown, Wesley, Westminster, Birnam, Brantford, Paris, Clinton, Lucknow, Port Stanley, Southampton, Hydraulic.
- 22. Wiarton, Wesley, Brome, Birnam, Madoc, Brnee Mines, Clinton, Lucknow, Port Stanley, Southampton, Quinze Dam.
- 23. Deer Park, Wiarton, Emsdale, Wesley, Westport, Wattenwyl, Perkins' Mills, Pt. Lepreaux, Beatrice, D'Israeli, Quebec, White Shore Lake, La Tuque, Ronville, Haliburton, Bruce Mines, Paris, Renfrew, Lucknow, Lake Edward, Hydraulic, Shawinigan Falls, Kakabeka Falls, Rutherglen, Fredericton, Montreal, Chatham, N.B., St. John, Parry Sound, Cochrane, Uplands, Shelburne, Lakefield.
- 24. Georgetown, Stratford, Westport, Pt. Lepreaux, Agincourt, Brome, Markdale, Almonte, D'Israeli, Hamilton, Montague, Port Hastings, La Tuque, Birnam, Madoc, Providence Bay, Haliburton, Peterboro, Brantford, Rentrew, Quebec, Charlottetown, Lucknow, St. Stephen, Lake Edward, Rutherglen, Fredericton, Port Stanley, Ottawa, Montreal, St. John, Toronto, Parry Sound, Uplands.
  - 25. Rapid City, New Germany, Windsor, N.S., Kentville, Sussex, St. John, Kenora.
- 26. Okotoks, Nanton, Cartwright, Morden, Almasippi, Treherne, Waitefield, Rathmullen, Pambrum, Pense, Crescent Lake, Chaplin, Halkirk, Hydraulic.
- 27. Cartwright, Emsdale, Georgetown, Wesley, Wattenwyl, Perkins Mills, Aitkensville, Agincourt, Morden, Almasippi, Montreal River, Oakbank, Haliburton, Bruce Mines, Peterboro, Paris, Lucknow, Treherne, Rutherglen, Waitefield, Winnipeg, Chatham, N.B., Father Point, Minnedosa, Parry Sound, Southampton, Cochrane, Rathmullen, Birnam, Kenora.
- 28. Georgetown, Westport, Westminster, Beatrice, Agincourt, Brome, Almonte, Montague, Madoc, Haliburton, Peterboro, Brantford, Renfrew, Lucknow, Shawinigan Falls, Kakabeka Falls, Rutherglen, Sion, Ottawa, Montreal, Father Point, Toronto, Parry Sound, Quebec, Uplands.
  - 29. Rapid City, Brome, D'Israeli, Oakbank, Sion, Port Stanley.
  - 30. Okotoks.
  - 31. Sion, Harmattan, Muenster, Crescent Lake, Halkirk.

### FORECASTS FOR MAY 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1145. These were divided as follows:—

	No.		VERIFI	ED.	
District,	lssued.	No. Fully.	No. Partly.	No. Not.	Per-
Alberta	76	58	14	4	85 5
Saskatchewan	72	54	14	4	84 7
Manitoba	. 72	55	12	5	84 7
Lake Superior	98	75	20	3	86.7
Lower Lake Region	109	92	15	4	91.3
Georgian Bay	109	91	13	5	89.4
Ottawa Valley	89	66	14	9	82 0
Upper St. Lawrence	92	70	13	9	83 1
Lower St. Lawrence	106	74	22	10	80 2
Gulf	. 105	71	30	4	81 9
Maritime Provinces West	107	74	28	5	82 2
Maritime Provinces East	110	74	31	5	81 4
Total	. 1145	854	226	65	84 5

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, June 22, 1912.

## DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVI.

JUNE, 1912

No. 6

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

A new section, containing the results of the observations obtained from balloon ascensions, is added to this number of the Review under the heading "Free Air Data." The data for 1911 were published in a supplement to the Review for that year, and it is now intended to publish the results of the balloon ascensions in the Review for the month to which they belong if the balloons have been found before publication.

### TEMPERATURE.

### BRITISH COLUMBIA.

The month began with cool weather, but warmer conditions obtained at the end of the first week, maxima of about 90° occurring on the 7th in the Kootenays and the Okanagan Valley. The days continued fine and very warm until the 12th when began a cold, wet period which lasted for five days. From the 18th to the 27th the days, with the exception of the 21st, were marked by exceptionally high temperatures, ranging between 90° and 100° in the southern interior. The last three days were very much cooler, especially in the northern portion of the Province where there was frost. The mean daily temperature exceeded the average over practically the whole Province, by 2° to 3° on Vancouver Island, by 3° to 6° in the Kootenays and the Okanagan Valley and adjacent territory; but in the Cariboo region and along the Upper Fraser, the difference was from 1° to 2°, while in the Queen Charlotte Islands there was a small negative difference from average.

### THE WESTERN PROVINCES.

Over the basin of the North and South branches of the Saskatchewan River the mean daily temperature was from 4° to 7° higher than normal. About the headwaters of the Peace and Athabasca Rivers there was an excess over average, amounting to from 3° to 6°. In the extreme southeastern portion of Saskatchewan the average was exceeded by barely 1°. From 1° in Eastern Manitoba the difference from average increased to 3° in the north-western portion. The most noteworthy feature of the month was the period of very warm weather which began about the 18th and lasted till the 28th, during which the temperature attained maxima between 80° and 100°. At points near the 55th parallel light frost was recorded on three nights during the first week, but in the southern districts there were few places which recorded temperatures lower than 34°.

### ONTARIO.

From the Lake of the Woods to the western shores of Lake Superior the mean daily temperature was about 1 above average, but from Lake Sippion eastward to the Atlantic Ocean temperatures were lower than normal. In the District of Algoma the deficiency was little more than 1°, but in the District of Nipissing, on the eastern shore of the Georgian Bay, and along the Ottawa River it ranged between 3 and 5, and in the Peninsula between 1° and 3°.

The maximum temperature of the first day exceeded 80° in nearly all districts, but from the 2nd to the 25th readings of the maximum were on several days less than 70° and seldom higher than 75°.

### QUEBEC.

With the exception of the 2nd and the 11th the first 17 days were very cool, frost occurring as late as the 14th in some districts of the western portion of the Province. Temperatures of 80° or higher, were recorded on the 2nd, and during the forepart of the last week. The month ended, however, with a return to cooler conditions. The mean daily temperature was 4° lower than average over the whole Province, except locally on the southern shore of the Lower St. Lawrence.

#### THE MARITIME PROVINCES

In Nova Scotia temperatures were nearly normal, the lower counties recording a small deficiency, and the northern counties a small excess, over average. In New Brunswick the difference from average was between 1° and 2° below. From the 23rd to the 27th there was a warm period, during which southern stations registered maxima ranging between 80° and 90°.

### PRECIPITATION.

### BRITISH COLUMBIA.

Rain fell on an average of eight days, but the amount was less than average, except locally. It was of general occurrence from the 10th to the 13th, and on the 26th and 27th, but was recorded also, although locally, about the 20th.

### THE WESTERN PROVINCES

In Alberta, at the headwaters of the Bow and Belly Rivers there was an excess over the average amounting to approximately one inch; but further east in the same Province there was more than an equal deficiency. To the north the rainfall was nearly average.

In Saskatchewan and in Manitoba there was very much less than average precipitation. The normal rainfall for June varies according to locality between three and four inches, but the amount recorded lacked from one to three inches of these figures. Since, however, the rain was well distributed throughout the month, the deficiency was not of a serious nature.

### ONTARIO.

The average frequency of rainfall was seven days, while the total amount showed an average deficiency of about one inch and one-half over the whole Province.

### QUEBEC.

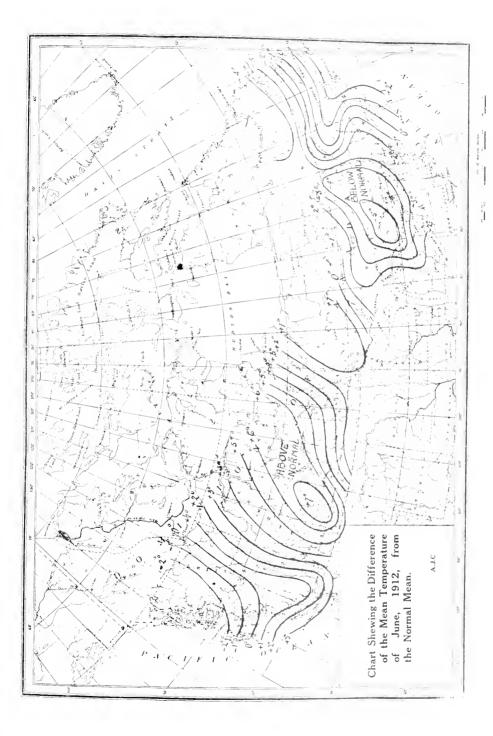
Rain fell on an average of twelve days, but there was a deficiency ranging between one and two inches, except locally in the Gulf and Lake St. John districts.

### THE MARITIME PROVINCES.

Over the greater part of the three Provinces there was less than the average rainfall, but at Sussex and Truro there was a very small excess registered. At Fredericton, a rainfall ending at six o'clock on the morning of the 1st, amounting to 4.70 inches, has been reckoned as part of the June rainfall. Leaving this out of the total, instead of a large excess there was a deficiency at this station comparable with that recorded elsewhere in the Province.

### ATMOSPHERIC PRESSURE.

Considering the telegraph reporting stations as exhibiting conditions representative of the districts in which they are situated, it appears that the mean barometric pressure for June was subnormal from Eastern Quebec to the Maritime Provinces, and also over Sonthern British Columbia; elsewhere in Canada the normal values were exceeded. The greatest differences from average, regardless of the sign, were noted in Cape Breton Island and the Western Provinces and were about 0.10 of an inch, negative in the former district, and positive in the latter region.



### HIGH AREAS.

Six areas were charted, of these three were first charted over the Pacitic states, one over Northern British Columbia and two developed to the northward of Saskatchewan and Alberta. All the areas moved more or less southeastward. Three passed off the continent over the middle Atlantic states, two over the New England states and one across the Maritime Provinces. All were apparently absorbed by the high area over the South Atlantic Ocean.

### LOW AREAS.

Of the five areas charted three first appeared over British Columbia, one in Alberta and the other developed over Lake Michigan. All the areas moved across or to the northward of the Great Lakes. Four passed over the Gulf of St. Lawrence and Straits of Belle Isle and the other passed off the Nova Scotia Coast. Strong winds accompanied three areas in the Gulf of St. Lawrence, but no severe storms occurred.

96

### WINDS, JUNE, 1912

PROVINCES AND STATIONS.	Total Mileage	Greatest Mileage in 24 hours	Greatest Mileage in one hour	Number of days of Gales	Number of days of Strong Winds	days of Fresh Winds.	OENFPAI DIRECTION
BRITISH COLUMBIA.							
Victorin	6334 6210	454 424	31 30	1	12	14 9	81. 81.
Alberta.							
Edmonton	4029 4859	320 306	20 24		2	12	SE. L. & N
SASEATCHEWAN,							
BattlefordQu'Appelle	6984 7653	542 421	57 27	1	6 [11	10 12	S E. S E.
Manitoba.							
Vinuipeg	8837 5205	567 350	36	4	11	12	E. W.
Ontario.							
Port Arthur. Parry Sound Southampton Wood-stock Foronto	6565 4810 6044 4658 7095	439 401 251 264 460	29 21 19 20 32	 I	1 1 1 13	12 8 16 8	NW, SW & W, SW, NW, W,
QUEBEC							
Montreal	10802 9011 9813	540 442 664	40		11	5	5W 5W. 5L.
Maritime Provinces.							
Fredericton St. John Point Lepreaux Halfiax Flat Point Clarlottetown	6530 8057 8383 8174 9312 5090	435 520 548 575 562 256	25 32 39 38 36 29	1 4 3 3	9 14 12 14 15	12 5 9 10 9	NW. 8 to NW. 8W. NW. 8W.

### FREE AIR DATA.

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat 43° 8' N., Long. 80° 47' W ) on June 6th, 1912.

Instrument—Dines Meteorograph.
Beginning of Ascent—1 a.m. G M T.
Barometer—737 mm.
Temperature = -14.0 C.
Direction of Flight at Beginning—

Fell—330 km. distant, S. 83°E. Maximum Height—13.10 km. Minimum Temperature=-62.0°C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	Centigrade deg
G.L. = 3	737	1-	1.0
.5	718	14.0	11.5
1.0	672	10.5	8.0
1.38	642	7 0	5.5
1.48	636	7.0	4.5
1.50	634	7.0	4.0
2.0	595	3.5	0.0
2.2	580	2.0	-1.5
2.5	560	2.0	-3.0
3.0	526	-1.5	-4.5
3.5	492	-4.0	-6.0
4.0	462	-7.0	-9.0
4.5	433	-11.0	-14.0
5.0	405	-15.0	-17.5
5.5	378	-1	8.5
6.0	354	-20.5	-21.5
6.5	330	-23.5	-25.0
7.0	308	-26.5	-27.5
7.5	288	-29.5	<b>-31.5</b>
8.0	268	-35.0	-36.5
8.5	250	-36.0	-38.0
9.0	232	-39.5	-41.0
9.5	216	-42.5	-45.0
10.0	200	-46.5	-50.0
11.0	172	-54.0	-57.5
11.4	160	-57.5	-61.0
11.85	149	-59.0	-62.0
12.0	145	-59.0	-62.0
12.75	130	-59.0	-61.0
13.10	123	_	59.5

June 6th, 1912.

High pressure conditions prevailed over the greater part of the continent, the highest pressure being off Bermuda.

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA. JUNE, 1912.

\*Stations not furnished with Registering Thermometers

			, at			_	Темі	ERATI'RE				l'RE	CIPITATI	on.	ŢĊ.				
	Latitude N	Longitude W.	Elevation above sea level, ir feet.	Mean.	Difference from average.	Yr's Observations	Highest	Date.	Lowert	Date	Mean dudy carge	Vincourt	Difference from	Heaviest fall in	Days with .01 or more.	No of fair days	No. of auroras	No of thunderstorms.	
BRITISE COLUMBIA-						_								=_	_	-	-	-	-
S. Vancouver Island	۰,	. ,																	
Alberni (Beaver Creek) Clayoquot Cowichan (Tzoubalem) Ladner Nanaimo Nanoose Bay Salt Spring Island Sooke Victoria	49 15 49 11 48 25 49 05 49 10 49 17 48 50 48 41 48 24	124 49 125 55 123 42 123 4 123 37 124 12 123 20 123 44 123 19	300 27 170 125 130 25 85	59 7 55 4 59 6 62 3 59 7 58 9 55 9 59 1	+ 0 5 + 1 4 - 3 5 + 2 3 - + 3 0	17 13 6 12 12 12 2 20	\$9 0 78 0 84 8 83 0 83 3 83 0 85 0 85 0	6-25 6 18 6 - 18 6 6 6	31 B 42 0 38 8 48 0 40 9 	2-14 3 26 28 - 3-5 3 3	27 0 15 4 21 7 15 0 18 5 	1 54 3 92 1 67 2 05 1 57 1 56 1 60 1 99	-0 67 -0 22 +0 45 -1 26 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	0 49 1 53 0 49 0 60 0 50 0 55 0 40 0 91	578969856	25 23 21 24 22 25 24 22 25 24		1 2 3	
N. Vancouver Island																			
Holberg Swanson Bay Triangle Island Winter Harbour (Quatsino)	50 39 50 37 50 52 50 32	128 18 126 53 129 5 127 40	680	54 7 54 8 56 0	<u>_</u>  +25	16	77 3 75 0 77 0	25 30 7	39 7 39 0 32 0	5 1 3	15 8 14 3 19 1	2 %6 3 05 1 15	-4 43	0 73 0 95 0 21	11 12 11	19 18 19			
Lower Fraser River																			
Agass:z Chilliwack Hope New Westminster North Nicomen Pemberton Hatchery Ruskin (Stave Falls) Sreveston Garry Point) Vaacouver	49 14 49 10 49 23 49 13 49 12 50 20 49 16 49 21 49 17	121 31 121 57 121 25 122 54 122 2 122 33 122 23 123 17 123 5	52 21 500 330 59 125	60 4 60 2 61 6 60 9 62 2 53 5 57 8 60 5	$\begin{array}{c} + & 1 & 1 \\ + & 0 & 2 \\ - & & \\ + & 2 & 5 \\ + & 1 & 6 \\ - & & \\ + & 1 & 2 \\ + & 2 & 1 \end{array}$	20 12 3 24 20 5 3 17 12	89 0 91 0 97 5 90 0 89 0 93 0 95 0 82 0 84 2	24 6 18 18 18 26 6 19 18	35 0 36 0 46 2 38 0 34 0 38 0 42 7	3 3 3 3 3 3 3 3 3 3	26 4 22 2 27 5 20 7 21 5 29 4 26 9 18 1 17 7	5 95 2 23 1 67 2 81 2 93 1 63 3 34 1 49 2 28	-1 26 -6 78 -0 18 -1 13 -0 31 -0 48	$\begin{array}{c} 1 \ 03 \\ 0 \ 61 \\ 0 \ 4^{o} \\ 0 \ 92 \\ 0 \ 80 \\ 0 \ 60 \\ 1 \ 02 \\ 0 \ 59 \\ 0 \ 91 \end{array}$	13 13 8 8 8 5 9	17 17 22 22 22 25 21 21		4 3 4 1	
Upper Fraser River																			
Babine Lake Barkerville Chilcotin (Big Creek) Fort St. James (Stuarts Lake) Quesnelle	55 38 53 02 51 40 54 28 52 59	126 26 121 35 123 0 124 12 122 30	4180 3100 2280 1700	51 6 56 1 51 7 59 3	$+\begin{array}{c} + & 2 & 1 \\ - & \\ + & 0 & 9 \\ + & 1 & 5 \end{array}$	24 9 19 17	\$2 0 88 0 80 5 95 0	25 19 17 26	25 0 24 0 23 5 26 0	2-4 3 5 5	24 3 32 1 28 8 31 5	2 50 1 24 1.12 1 08	$-1_{-0.28}$ $-0.28$ $-0.57$	0 76 0 60 0 46 0 52	5 4 5	22 25 26 25		1 7 2 3	
Okanagan Valley																			
Hedley Hedley (Nickel Plate) Keremeos. Okanagan Mission (Kelowna) Penticton. Princeton Summerland Vernou (Coldstream Ranch)	49 29 49 29 49 57	120 10 119 48 119 29 119 35 120 29 119 0 119 15	1771 1390 1200 1650 1100 1246	64 8 50.3 64 6 63 8 65 5 64 5	+ 3 4	14 6 5	100 0 80 U 92 0 90 0 96 0 96 0	24-25 23 25 20 25 24-25	37 0 25 0 38 0 34 5 42 0 34 0	2 4 6 3 2-3 3	28 2 22 3 25 7 25 3 24 1 25 1	1 25 4 15 1 42 1 52 1 60 1 32	-0 02 -0 33	0 23 0.95 0 23 0 39 0 39 0 42	9 9 6 6 5	21 21 24 24 25 24		3 5	
West Kootenay																			
Crawford Bay Fruitvale Grand Forks Greenwood Kaslo Nakusp Nedles Neisou Rossland	49 9 49 2 49 52 50 20 49 29 49 5	117 31 118 27 117 0 117 50 117 21 117 48	1752 1413 1760 3400	62 6 63 8 60 4 54 7 64.5 61 4	1 1 1	1 10	93 0 97 0 88 0  100 0 89 8	24 24 26 24 24 24	38 0 36 0 35 0 38 0 38 5	3 3	26 8 30 0 - 23 7 27 6 1 20 8	2 04 2 03 1 16 2 26 1 74	-	0 52 0 83 0 54 0 63	9 7 5	21 23 25 22 23		3 . 2	
East Kootenay	13 3	111 40	3400	01.4	_	,	e: n	-1	34.5		20 1	. , ,				-			
Akamina Cranbrook Tobacco Plaias (Elko) Wilmer	49 30 49 1 50 34	115 50 115 5 116 14	2684	62.9 64.7 63.8	+ 4 9	17 3	96 0 98 1 97 0	24 25 25	2× 0 34 0 30 0	2 3 3	37 1 30 2 32 7	1 65 2 64 1 67	+ 0 05	0 \$5 1 19 0 97	5 9 7	25 21 23		5 5	::
Thompson River	J 01	11		va. a	_	,	Jr. 17		air u										
Euderby. Kamloops. Nicola Lake. Salmon Arm. Salmon Arm (Exp. Farm). Traaquille.	50 32 50 41 50 9 50 42 50 41	119 7 120 29 120 39 119 35 120 29	1180 1245 2120 1152	66 4 67 3 60 5 65 5 64 7 66 8	+ 5 7 + 3 5 + 3 1	10 20 17 10 1	102 0 101 0 91 0 97 0 95 0 101 0	24 25 26 25 25 26–25 25	38 0 41 0 36 0 35 0 40 0 40 0	3 28 3 28 3 3 3 5 3	20 4 25 7 24 9 29 1 31 4 27 0	0 87 1 52 0 88 0 87 0 87 0 70	-1 13 -0 24 -0 42 - 42 -	0 24 0 77 0 33 0 27 9 30 0 17	5 7 6 9 5 7	25 23 24 21 25 23		4	
North Columbia River			1																
Golden Glacier Revelstoke	51 16 51 14 51 0	116 55 117 29 118 6	2550 4072 1476	61 7 56.6 63 9	+ 4 9 + 5 5 + 5 5	11 12 13	94 0 87 0 95 0	24 25 24	29 0 31 0 36 0	6 3 3	29 4 25 9 29 5	1 99 2 48 2 29	-9 23 - 0 31 - 0 80	0 42 0 82 0 68	5 %	27		2	

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JUNE, 1912.

\*Stations not furnished with Registering Thermometers

								ГЕМРЕ	BATUR	E			Prec	IPITAT	ION	ore.			18.	
STATION	X of many	Lamidae N.	Longitude W.	Elevation above sea level, in feet.	Menn.	Difference from average.	Yr's Observations.	Highest.	Date.	Lowest.	Dute	Mean dady range.	Amount.	Difference from average.	Heaviest fall in month.	Days with 0 1 or more.	No. of fair days.	No. of auroras.	No. of thunderstorms.	No. of fogs.
British Columbia-Con					٠															Ì
North Coust	0	,	۰,																	
Bella Coola Prince Rupert Stewart	52 54 56		126 54 130 18 130 1	150 170 215	57 9 52 6 54 1	+ 0 7	14 3 2	85 0 68 0 78 0	7 5 30	30 0 38 0 34 0	5 4 3	26 1 · 13 2 21 8	0 61 4 09 1 50	-1 01 -	0 26 1 19 0 28	8 16 9	22 14 21	::	· · · · · · · · · · · · · · · · · · ·	
Queen Charlotte Islands																				
Ikeda Bay Massett .	52 53	17 58	131 7 132 9	5 30	56,3 51-6	- 2 0	4 12	70 0 83 0	2 15	51 ti 48 0	19 26	6 6 15 0	2 05 1 92	_0 50	0 80 0 50	:4	26 16	::		:
Yukou Boundary Athn	59	35	133 38	2240	47 7	_	6	67.5	30	29 5	5	19 9	0 26	_	0 06	7	23			
Yukon— Careross Dawson	61	11	134 34 139 29	2171 1200													::	::		
Alberta— N. Saskatchewan River																				
Daysland Edmonton Enduang Gut Edge Hallork (Emsburg)	55 52 52 52 52 52 54	52 33 0 59 17	112 17 113 30 112 0 110 43 112 10	2158 2795	59 4 61 9 59 5	+ 4 7	1 30 2	90 0 89 0 91 0	25-26 27 26	26 0 1 32 5 28 7 32 0	5 4 4 3	26 9 26 2 25 6 25 0	0 75 3 03 3 26	-0 38	0 21 0 66 1.20	12 12 10	18 18 20	i	5	
Loveland Pakan (Victoria) Ranfurly (Waitcheld) Wetaskiwin	52 54 53 52	30 0 29 58	112 10 111 59 112 31 111 38 113 23	2000 2480	61 2 59 9 59 9 61 3 62 5	=	3 3 10 7 8	91 0 90 0 93 0 89 0	25 + 25 27 27 22-27	29.0 25.1 30.9 32.0	6 4 4 5	25 0 25 8 25 1 28 3 29 5	3 73 2 56 3 38 2 80	=	0 94 0 81 0 67	9 6 15	21 24 15		8 8	1:
The Red Decr River						1														
Alix Delia Didsbury Eckville Harmattan Hilsdown Lacombe Oyen Reil Deer	52 51 51 52 51 52 52 52 52	14 58 16	112 25 114 8 114 22 114 23 113 29 113 44	3300 3500 2806 2783 2806	61 9 60 9 59 6 56 0 59 9 59 2		5 8 . 5	85 0 91 2 88 0 88 0 89 6	28 25 26 27 26 26 26	32 0 27 0 30 0 21 0 30 0 25 5	6 3 3-4 3 1 3	27 1 23 7 27 4 31 3 25 9 28 9	2.60 3.18 2.68 2.85 3.30 3.00		0 71 1 11 0 93 1 45 1 20 1 04	7 7 9 11 9	23 23 21 19 21		3 2	
Threehills Creek The Bow River	51	30	113 11												1					ľ
Berry Creek Brooks, Calgary Cardston	50 51 49	2	111 54 114 2 113 18	3389	56 1 61 9 59 8	+ 7 5	1 28	96 0 96 0 90 0	27-28 26 28 26	22 0 29 0 29 0	15 10 6		2 14 4 31	_   +1 04	1 00				3	
Furman (Playle Creek) Gleichen High River Lawtence (Parkland) Lethbridge	50 50 50 49	59 35 16	112 54 113 53 113 26 112 51	2952 3394 2961	61.2 60.5 57.9 64.9	=	9 9 5	91 0 89 0 98 0	26 27 25–26 27	31 5 25 0 26 0 30 2	6 5 1 6	30 5 30 6	1 23 3 06 2 43 1 91	_	0 53 1 51 10 38 6 0 70	4 7 0	26 26 23 21		1 2 3 1	
Lethbridge (Exp. Farm.) Macleod Medicine Hat Pincher Creek Sundial	49 49 50 49 50	43 44 1	112 51 113 24 110 37 114 4	3128 2161 3750	62 4 63 8 68 0	+ 6 5 + 6 6	5	94 8 199 0 02 0	26 26 26	32 0 30 0 34 5 27 0	3 6 26	29 8 31 9 30 4	1 73 1 65 1 19	+0 68 -2 22	0.66	7 5 4		::	2	
Rocky Mountains					-															
Banff Blairmore Athabasca Ricer	51 49			4542 4225	55.9	+ 4 3	17	85 7	24	30 2	7	30 1	3 02	-0 17	1 68	14	16		··	1
Athabasea Landing Lunnord Pembina	54 54 54	33	113 17 114 19 114 0	1650	59 8 58 0		9 3	93 0   85 8	27 21	25 0 27 0	4-7	33 9 29 0	1 72 2 09	_	0.48 0.48				1 1	
Peace River																				1
Dunvegan Fort Vermilion Peace River Crossing Spirit River	55 55 56 56	27	118 35 116 3 117 15 118 47	1305	59 2 59,7		5	98 0 89 0	22 25	29 0 29 0	4	33 3	0 17 0.71	=	0 06	4	26 27		2	

TEMPERATURE AND PRECIPITATION AT STATIONS AN ITHE  $10^{1}(1-0)$ ,  $10^{1}$  Canada, Junia 1914

\*Stations not furnished with Registering There are a

							Terre	h:T) 1L					tili ili	0.					
STATION	Latinda N	Lengtrade W	Plevation above sen   Tevel, in feet,	Mean.	Difference from	Ni'sobora itam-	W - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Pate	Limest		V		Difference from	The property of	The will continue	No Sheeke	7 W 7	No of Hundred m	No of figure
Saskatchewan-																			
Qu'Appelle River	0 ,	o /																	
Broadview. Brownfull Greafelt Brownfull Brownlee Crescent Lake Extevan Fort Qu'Appelle Hubbard Drumague Humboldt	50 23 50 25 50 45 50 57 49 12 51 5 52 12	102 33 102 53 106 0 102 25 103 4 103 24 105 9	1960 1957 1658 1858	59 4 59 4 61 7 58 1	+ 2 1 - 1 1 - 1	20	7 6 12 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8	1 24 24						I 1 74 41 41 1 1	1	4 22 51		2 2	
Imperial Indian Head Manor. Moose Jaw Moosonin Muenster St Peter's Mon Pilger	51 92 50 28 49 43 50 21 50 0 52 0 52 25 50 20	105 23 103 40 102 2 105 35 101 37 165 0 105 9	1924 2064 1759 1884 1870	61 8 61 6 62 5 61 3 61 6 60 8	+ 1 0 + 3 6 + 3 4	10 10 11 6 1	50 0 90 0 90 0 55 0 90 0 95 0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4 · · · · · · · · · · · · · · · · · · ·	1		1111	-1 21 -1 21	1 % A A A A A A A A A A A A A A A A A A	S. F. Densin	2		2 5	
Pense (Gatesgarth ) Qu'Appelle Quill Lake Regina Strussburg Yarbo (Fairfield) Vellow Grass	50 30 52 4 50 27 50 30 49 4	103 4° 103 4° 104 14 104 37 102 4 104 9	1879 2115 1690 1885	61 0 61 2 5+1 61 4 62 8	+ 3.5 + 2.5 - 1.4 -	10 25 25 0	95 0 95 0 15 1 1 1 1 7	21 25	2 1 2 1 3 1 4 1 1 h				-1 5	1 17	1 1 1 1 1 1 1 1 1 1	21		î	
Yorkton S. Saskatchewan River	51 11	102-29		61.0			65.0	. 4		1		: 41		11.4.	,				
Chaplin East End Kelvunhurst Larchmount 'Glenbr an Maple Crock Davide Oliver Rathmulien Swift Current	50 26 49 31 49 34 49 54 49 55 51 46 51 20 50 20	106 32 108 49 109 29 107 27 109 28 108 10 108 57 107 45	22/2 3500  2439	62 1 60 0 59 5 57 5 60 7 63 3	+ 1 1 - - - - + 3 4	26 2013 25	100 0 64 0 7 6 8 7 0	27 24 27 27	20 0 20 0 21 0 21 0 0 0	5 6	5 1 5 1 5 1 5 1	1 91	+1.75	0.17 1.71 2.11 2.14 0.94 0.52	× 411 - 215	1 555 54	1	1 h	
N. Saskatchewan River																			
Battleford Lloydmuster Luscland Onion Lake Prince Meota : Scott (Ex. Farm : Wasca.	52 41 53 18 52 5 53 52 51 6 51 59 53 6	108 20 110 0 109 34 109 59 108 20 109 30 109 29	1620 1700	65 6 60 7 61 1 61 7 69 9	+ 6 h		12.5	27 22-26 23 23 23	25 0 25 0 24 0 24 7	1	# * # # # # # # # # # # # # # # # # # #	1 5 1 1 1 1 - 1 1	-3 2m	0.54 0.52 0.45 0.57	3 0 0 0	25 22 21 23			
$The \ Saskatchewan \ Forks$																			
Chagoness (Star City) Duck Lake Melfort Prince Albert Rosthern Saskatoon	52 32 52 54 52 47 53 10 52 40 52 15	104 13 106 20 104 30 106 0 106 20 106 30	1432 1657 1571	61.5 - 60° 5 - 63.9 - 61.9 - 63.2	$-\frac{1}{4}\frac{2}{4}$	5 11	10 0 10 0 10 0 10 0	22 22 25 25	30 () (2 ) (3 ) () (2 )		-7 -7 -1 [	2 11		1 15 2 3 2 4 1 4 1 4		21 22 25 22		1 2 6	
Lower Saskatchewan River																			
Lost River Cumberland House																			
Manitoba— Qa'Appelle and Assini- boine Rivers																			
Aweme (St Albans) Boissevain Brandon Carberry.	49 42 50 25 49 51 49 52 49 31	99 33 101 1 99 57 93 20	1150 1703 1176 1258 872	64 6 61 6 62 2	+ 1 2	25 21	10 1 1 7 0 101 5		1 9 29 8	) )	1.4	1 21	2.79	.1 !!					
Carman Cayress River Hillynew Mnnedoea Ninette Ningan Perstane Portage la Prarie Portage la Prarie Portage la Prarie Virden Trebetre Virden	49 31 49 32 49 55 50 15 49 24 49 14 49 11 49 57 49 56 50 50 50 50 49 36	98 0 199 3 100 33 99 50 99 38 99 51 101 5 104 58 98 17 101 20 68 40 100 55	872 1232 1400 1699 1363 1649 1531 1400	60 1 61 7 2 5 61 7 2 5 63 7 63 7 63 7 63 7 63 7 63 7 63 7 63	+ 2 1 + 2 1 - 2 7 - 2 7 - 3 1	25 1 2 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	02 1 04 5 04 5 05 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.0			01.54 01.00 01.1 11.0 26 1.1 1.1 2.7	110	1 25 10 1 1 1 10 1 1 1 1 24 1					
The Red River Almasappi, Morden Oak Bank Stony Mountain Winnipeg	49 14 49 11 49 57 50 40 49 53	99 20 98 6 96 42 97 14 97 7	978 800 803 760	62 4 62.5 69.9 62.5 64.5	+ 1 + 1 1.1 2 1	17 17	1 / 0 00 / 00 / 10 / 0	20 20 25 24				17 4 1 7 10, 4		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 4 1 -			1	

\*Stations not furnished with Registering Thermometers.

				1				Темрев	ATURE.				PRE	CIPITATI	ON.	more.			xi	1
STATION	2	Latitude iv.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month.	Days with .01 or mc	No. of fair days.	No. of auroras.	No. of thunderstorms.	1 2 2 1
Maniroba—Continued																				
Dauphin Lake and River Dauphin Moose Horn Bay) Artkens- ville) Berens River	51 51 72	8 15 18	99 33 97 23	957 710	62 9 60 9	_	6	95 0 89 0	28 25	36.0 36.0		22 8 20 2	2 03 1 17	_ 	0.43	6	23	1	3	
Lake Winnipegosis Swan River The Pas	52 53	6 49	101 15 101 15	1112 860	61.5		· -	92 0	27	34 0	2	24 2	1 22		0.55	6	24			
Ontario-																				
The Lake Superior Districts																				
Rainy River Kenora	49	48	94 32	1102																
Thunder Bay Kakabeka Falls Port Arthur Schreiber	· 48 48 48		89 26 89 12 87 15	912 644 933	56 3 57 0 55 0	+ 0 6 - 2 3	3 31 13	92 0 83 0 81 2	24 22 29	29 0 34 0 28 2	7 7 7	32 5 24 6 29 5	1 05 1 75 1 33	- <u>1</u> 24	0 46 0 64 0.52	9 9 8	21 21 22	1	1 1 1	
Algonia Bruce Mines Copper Cliff Porcupine Providence Bay White River	46 48 45 48	30	83 55 80 59 81 15 82 14 85 16	595 1252	57 8 59 8 57 0 54 0	- 1 4 - -	14 6 - 2	86 0 87 0 94 5 80 0	25 28 24 29	33 0 34 5 28 0 32 0	7-13 7 4-8 7	26 9 24 7 29 2 26 6	1 15 1 38 - 2 00	_2 00	0.39 0.85 1 10	8 7 3	22 23 27		1	
Nipissing Cochrane Haileybury Montreal River	49   47   47	2 29 8	81 0 79 39 79 29	946 687	56 6 59 3 56 8		2 19 2	92 5 88 0 86 0	24 23 28	28 0 32 6 31 0	7 7 13	25 8 21 6 28 9	1 61 2 49 1 54	_0_90 90	0 81 0 64 1 06	11 13 7	19 17 23	ż	5 3	
Upper Ottawa River Rutherglen (Lake Talon) . Stoneeliff (Rockliffe)	46		74 48 78 6	557	57 5	<b>-</b> 5 2	34	88 0	24	30 0	7-9	28.5	2 21	-I 16	0.66	8	22		2	
Upper St. Lawrence and Lower Ottawa Rivers Almonte. Bloomfield Kingston Montague North Gower Ottawa Renfrew	1 43 43 44 44 45 45	59 13 56 8 26	76 13 77 21 76 29 75 57 75 43 75 42 76 39	390 260 285 294 416	60 6 59 5 58 6 59 7 61 6 60 9 61 4	- 4 2 - 4 2 - 3 9	10 29	87 0 82 0 80 3 85 0 90 0 84 0 92 5	21 29 29 28 24–29 24 24	35 0 39 0 38 4 37 0 32 0 34 0 35 0	8 8 9 8 7-8 8	26 0 20 9 17 7 23 1 26 8 20 3 27 6	1 17 0 88 1 07 1 34 2 23 1 25 1 13	-2 13 -2 13 -2 50 -1 68	0 37 0 95 0 44	9 5 8 6 3 9	21 25 22 24 27 21 21	1	1 2 3 3	
Georgian Bay Counties Barrie Beatrice Coldwater	44 45 44	23 8 38	79 41 79 20 79 40	839 800 600	59 6 57 1	_ 3 7	32 37	83 8 81 0	16 24	36 4 34 0	8 5-9	22 6 25 6	I 46 I 81	_1 40	0 61 0 68	7 8	23 22			
Collingwood Elora Gravenhurst Huntsville	44 43 14	31 41 54	80 21 80 21 79 20 79 8	1274	61 9 59 9 57 1	- 0 2 - 5 6 - 5 8	15	88 0 88 0 84 0	20 28 24	38 0 33 0 30 0	5 8 5	25 9 28 0 28 4	0 35 1 31 1 95	_0 73 _1 49	0 20 0 37 0 72	2 9 4	28 21 26	1	1	
*Midland Markdale Orillia Owen Sound	44 44 44	44	79 53 79 24 80 55	750 775 597	60.7 62.2	- 0 6	5 1 18	85 0 102 0 88 0	29 26 28	45 0 34 0 39 0	7 13 13	27 7 23 9	1 27 1 65 2 28	-1.01	0 50 0 60 0 85	4 4 8	26 26 22		3	
Parry Sound Ronville Shelburne Uplands	15 45 44 45	19 15 5	80 0 78 57 80 47 79 25	635 1038	59 1 55 9 59 9 56 5	- 3 1 - 4 4	5	84 0 82 0 85 0 82 0	25 24 29 24	37 0 32 0 35 2 28 7	13 4-7 5-8 5-9	$\begin{array}{c} 25 & 3 \\ 27 & 8 \\ 24 & 2 \\ 29 & 5 \end{array}$	2 08 2 30 1 13 0 98	-0 89 -2 50	0 60	10 10 6 11	29 20 24 19		3	
Lake Huron Counties Brinam Clinton Goderich Lucknow. *North Bruce	43 43 43 43	32 45 56	81 55 81 37 81 41 81 30 81 25	600  908	61 8 59 5 60 1 57 6	- 3 1 - 3 2 - 6 0	10 22	85 5 85 0 85 0 84 0	28 29 2 28	35 0 34 0 38 0 33 0	8 8 8	21 1 22 6 20 3 25 6	1 44 1 47 1 43 2 55	-1 97 -0 05	0 72	6 6 4	24 24 24 26	· · · · · · · · · · · · · · · · · · ·	6 2 2 3	
Point Clark *Sarnia Southampton	44 42 44	. 59 59	81 44 82 24 81 21	595 586 656	65 3		19	90 0	28	45 0	6				0.00		30		i	Ì
Lakes St. Clair & Erie.		50)	01 21	non	57 9	- 3 3	35	82 0	25	36 1	8	21 4	1 🕸	-0 70	0.82	1	23		1	
Niagara Peninsula Clintham Grimsby Peleo Island Port Burwell Port Dover Port Stanley	42 42 43 41 42 42	7 13 50 30 27 40	82 12 82 45 79 36 82 35 80 55 80 13 81 13	595 606 585 592 635 592 347	65 6 62 6 63 5 71 8 60 4 60 1 60 5	$ \begin{array}{c c}  & 0.7 \\  & 5.0 \\ \hline  & \\ $	30 32 9	92 6 92 0 90 0 82 0 83 0 89 5 88 2	29 29 29 29 29 29 29	38 0 34 0 38 0 59 5 35 0 34 5 34 0	8 7 2 8 8	24 8 29 3 22 5 7 8 19 5 19 6 20 9	1 67 1 45 1 50 3 15 2 08 1 91 1 34	$-\frac{1}{1}$ $\frac{11}{48}$ $-\frac{1}{9}$ $\frac{11}{66}$	0 65 0.55 1 56 0.78 0 71	5 3 8 4 6 7 9	25 27 22 26 24 23 21	1:4	1 3 5	
St Catharines Stoney Creek Wallaceburg Welland Windham Centre Windsor	43 42 42 42	9 13 35 59	80 13 81 13 79 17 79 45 82 24 79 17 83 4	347 292 577 625	62 5 63 5 61 9 61 2 64 8	$\begin{array}{r} -3 & 6 \\ -3 & 9 \\ -2 & 6 \end{array}$	27 7 26	90 0 90 0 85 0 88 0 88 0	29 29 29 29 30	38 0 37 0 35 0 35 0 44 0	8 7 8 8	22 6 23 2 21 8 23 1 18 3	1 25 1 56 1 34 1 94 2 07	-1 57 -1 56	0 63 0 40 0 67 0 62	3 8 5 6 7	27 22 25	::		

# TEMPERATURE AND PRECIPITATION AT STATIONS OF THE COMINGO OF ANADA, JUST A

\* Stations not furnished with Registering Tayer ...

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			2			5									100			1. 378 -1	
STATION	Latitude N.	Longitude W	Elevation idoove level in feet.	Nem	Difference from	1 V1's Observations	Harbest	Dece	1	l Dec			Difference from	Bearer fall in month	December of a	No fine it.		The Control of the	= /
ONTARIO—Continued—																			
West-Central Counties	· ,	c ,																	
Alton Brantford Guelph London Paris Stratford Woodstock	13 51 43 10 43 33 42 54 43 12 43 23 43 8	\$0 5 \$0 21 \$0 16 \$1 13 \$0 25 \$1 0 \$1 47	1250 750 1050 840 1141 950	61 0 62 7 62 6 55 6 60 8	- 3 1 - 3 2 - 3 7 - 4 6 - 3 5	31 27 27 2	(f) (1) (5) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	25-21			24 25 25 25 25 25 25 25 25 25 25 25 25 25		-1 14 -1 72 -1 74 -1 75 -0 24 -2 01	0 5 ° 5 ° 5 ° 5 ° 5 ° 5 ° 5 ° 5 ° 5 ° 5	***				
Lake Ontario Counties																			
Agincourt	43 47 43 57 43 16 43 43 43 40	79 16 79 24 79 54 79 13	590 303 350	61.6	- <u>1</u> "	16 4 72	\$6.4 \$4.0 \$4.0	25	24 7		2 		-103	1 75	+	20 20			
Toronto Is.(Lakeside Home) Uxbridge Wexford	13 40 44 5 43 44	79 54 79 13 79 24 79 24 79 5 79 17	886 555	62 2 5% 5 60 0 5% 3	=	72	37	21	1			1 44	=	0 %				7	
East-Central Counties																			
Bancroft Haliburton Kinmount Lakefield Lindsay Madoe Peterhoro	45 1 45 1 44 45 44 25 44 20 44 30 44 17 44 54	77 50 78 28 78 38 78 15 78 45 78 19 78 18	1050 920 850 872 575 722	58 6 58 0 56 7 61 0 61 0 61 0	- 4 1 - 4 2 - 6 1 - 3 6 - 2 6 - 4 5	21 22 23 27 4 5	5 × 5 × 5 × 5 × 5 × 5 × 5 × 5 × 5 × 5 ×	24-25	31 :	1.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	=2 5, =2 7, =1 55 =1 55	0 27 0 5 0 5 0 5 0 5	1.7.7.9	14114111	1	1	
QUEREC-																			
Middle St. Lawrence																			
Brome Cap Rouge D'Israeli Montreal Quebec Ste Anne de Bellevne Shawinigan Fulls Sherbrooke	45 10 46 46 45 55 45 30 46 48 45 27 46 34 45 32	72 36 71 18 71 21 73 35 71 13 73 59 72 43 72 5	678 896 187 296	57 5 56 2 55 1 61 2 60 9 54 4 57 6	- 4 6 - 2 6 - 4 6	31 55 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	277777577	25 25 25 25 25 25 25	35 2 25 0 8 4 4 24 2 25 0 21 4	16 14 10 10		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-1 47 -1 -1 -1 -1	11 In 12 In		15 10 10 10	1.	-	
Lower St. Lawrence & Gulf																			
*Anticosti, E. Pt *Anticosti, W. Pt *Bicquet *Cape Chatte *Cape Magdalen. Father Point.	49 6 44 52 45 25 49 6 49 16 48 31	61 42 64 32 65 53 66 45 65 20 65 19	30 30 93 20	45 2 47 9 56 6 49 5 52 3 53 1	+ 0 3 - 3 7 - 4 5 - 1 0 - 0 5	29 30 30 21 34	65 0 65 0 82 0 67 0 72 0	24 25 21 21 24	3 - 11 40 - 0 30 - 0 40 - 0 50 34 - 0	1-13 1-13 1-13		- 1	+ 17 + 14 +1 52 +1 73	71 57	15 7 1 1	11		2	* + :: + + -(
Lake St. John																			
Chicoutimi Chicoutimi (2) Lake Edward La Tuque. Mistassini *Roberval	48 25 47 39 47 27 48 54 48 31	71 5 72 15 72 48 72 15 72 13	150 1333 520 360 352	55 2 54 7 53 5	-4 6	35 3 1 1	×2 3 % 5 % 0	22- 5 -4 -14 -24	10505	i.	- 1	1 45 1 2 4 55	15   	1 5	12 14 14	14 14 11 16	-	1	1
The Northwestern Districts																			
Abitibi Manouan Crossing Weymontachingue	48 33 47 54 48 12	79 22 73 50 75 43		56 6 52 7 50 6	1 5	10	\$2 n \$3 0	2 1-25 24 24	13 H 29 H	1	.1.	1.5	_ =			; , [*	;	1	
	45 12	73 43		30 11	_	1	-0.7		/										
The North Shore Clarke City	50 10	66 25		51 3			79.4	24	1	`					12	15			
New Brunswice-																			
Chatham	47 3 48 4 45 57 46 9 45 4 45 17 45 11 45 38	65 29 66 22 66 36 64 45 66 25 66 4 67 16 65 38	21 30 164 50 30 70 35	58 56 55 57 51 5 55 6 57 9 58 9	+ 1 0 + 1 0 + 2 2 + 4 2 + 1 3 + 1 7 + 0 1	17 8 25 15 30 30 15	13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21-4	7 ( 31 () 11 () 12 ()				- 42 - 11 - 11 - 1	10.11					7

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JUNE, 1912.

\*Stations not furnished with Registering Thermometers

									TEMP	ERATUI	t E			Pres	TEITAT	Ion	more			818	
STATION	_	Latitude		Longatude	Elevation above sea level, in feet	Mean	Difference from average.	Yr's Observations	Inghest	Date	Lowest	   Dare	Mean daily range	Amount	Difference from	Heavest fall in month	Days with .01 or me	No. of fair days	No. of Auroras	No. of thurderstorms	No. of fogs
Nova Scotia—		۰,	-																		
Antigonish Hahlard Kontville, Now Germany Larrsbord Larrsbord Larrsbord Soldie Jahnd, E. Pt. Sydney Turn Whitehead Windsor Wolfville Yarmouth	45 44 45 45 45 43 46 45 44 45 43	39 39 39 58 10 22 15 59 7	63 64 61 59 60 63 61 64 64	59 36  19 22 46 10 18 8 6 20 2	50 88 40 40 45 25 35 77 20 90	57 7 58 3 56 9 58 3 54 2 57 6 56 8 57 0 50 1 58 6 59 1 7	$\begin{array}{c} -1 & 6 & 7 \\ -1 & 6 & 6 \\ + & 2 & 2 \\ -1 & 0 & 8 \\ + & 0 & 5 \\ + & 0 & 6 \\ \end{array}$	1 16 21 38 39 28 9	90 0 87 1 86 0 92 0 74 0 83 0 86 0 82 3 63 0 84 0 84 0 73 0	5 4 25 25 24 23 4 25 25 5 4–25 25	30 0 37 8 36 0 34 0 31 0 34 0 35 0 43 0 39 0 38 5 38 1	12 16 11-15 16 10 1 13 18 13 5-16 11 15	27 4	2 57 1 74 1 60 1 90 1 45 3 51 2 30 2 43 1 86 1 52	$\begin{array}{c} -1 & 33 \\ -1 & 33 \\ -1 & 19 \\ -1 & 26 \\ -1 & 71 \end{array}$	0 66 0 98 0 58 0 58 0 65 0 60 1 30 0 70 0 48 0 73 0 59	5 5 4 6 14 4 12 6	١,		1 1 1	10 2
P. E. ISLAND									İ												1
Charlottetown Charlottetown (Exp. Farm) Hamilton .	46 46		63	10 7 48	38 75	58 1 57 8 57 1	+ 0 1	2	54.5	24 24-25 26	37 0 36 0 40 0	11 11 10	17 0 18 3 17 9	$\begin{array}{ccc} 2 & 37 \\ 2 & 49 \\ 0 & 91 \end{array}$	$\begin{bmatrix} -0 & 27 \\ -1 & 87 \end{bmatrix}$	$\begin{array}{c} 1 & 30 \\ 1 & 16 \\ 0 & 73 \end{array}$	8 12 2	22 18 28			i
Newfoundland— *Amour Point Burm 'Cape Norman Eogo *Point Riche Port aux Basques 81 John's	51 47 51 49 50 47	38 43 42 35	55 55 54 57 59	51 10 52 17 25 10 42	27 30 35 27 125	40 9 47 8 53 3	+ 3 6	4	59 0 67 5 84 0	26 4 5	33 0 34 5 35 0	11-18 9 17	 12 8 19 8	2 34 2 90 2 19	+0.03	0.76	8 13 15	22 17 15		i	13  5 1
Labrador- North West River			Ι.																		
Bermuda— Prospect	32	17	61	46	151	75 1	+ 0 3	21	87 2	26	60 0	11	10 8	2 98	<b>→2.20</b>	0.70	14	16		3	
							,	1					1				11		1		

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, & . DURING JUNE, 1912.

		RA	INFAL	L.		i	SNOW	FALL.		
STATIONS.	Aniount in inches.	No of Days .01 or over.	No. of Fair Days.	Heaviest Full in Month.	Date.	Amount in inches.	No. of Days	Heaviest Full in Month	Date	REMARKS.
BRITISH COLUMBIA— Alkalı Lake Annıs (Canoe Poiat) Armstrong Akamina	1 64 1 91	8 7 7	22 23	0 84 0 73	26 26					
Akamina Beaver Lake	1 92	6	23	0 93	13 20					
Burriago Vulley (Lonis Cr.)	1 31 2 39	6 5	24 24 25	0 42 1 31	12					
Coquitlam Deaman's Island Ferguson Goldstream Luke	1.04 1.87 1.98	6 7 9	24 23 21 21 24	0 34 0 38 0 61	20 12 20					
Hydranic Hornby Island	1 16 1 07	6	26	0 40 0 55	20 27 21					
Jordan River (Bear Creek).	2.91	12	18	0.85	12					
Creek, V.I.)	1 20 0 74	6 8 8	24 22 22	0 31 0 32	18 14					
Naas Harbour Skidegate	5 89 1 53			1 12 0 35	19 21					
Goldstream Lake Hydranke. Hornby Island Jordan River (Bear Creek) Little Qualicam (Freach More Code More C	1 66	9 5	21 25	0.70	12					
LEBITA— Bardo Bismark Braederheim Brittern Lake. Brooks Campsis Christie Charles Donstable Grassy Lake Jumping Poand Lacombe Loch Sloy Lyndon Lincham La Pearl Macleod. Mayeroft Nateby Nateby Pekisko Ponoka Priddis Sion Seven Persons	3.09	7	23 24	1 29	30					
Braederheim	2 89	- · · · · · · · · · · · · · · · · · · ·	24 21 24	1 23	15 28					
Brooks Campsie	1 94 1.88	6 10	20	1.26 0.41	30					
Caldwell	2 02 2 63	7 9 12	23 21	1 11 0 60	30					
Grassy Lake	2 32 0.60 4 52	3 7	18 27 23	0 71 0 30 1 78	30 15 15					
Lacombe										
Lineham	2 81 4 15 1 01	3 3 4	27 27	2 11 2 8) 0.55	15 16 14					
Macleod Mayeroft	3 22 2.95	3 8	26 27 22	1 87 1 76	30					
Nateby	3.88	5	25		15					
Okotoks	3 68 4 88 2 93	3 9 7 6	27 21 23	1 93 2 46 3 46 0 90	14 15 30					
Priddis	3 25 2.88	15	24	1 60 0 82 0 74	15					
Sion Seven Persons Tilley	0 89	3	15 27	0.74	14 15					
SASKATCHEWAN-	2.28	7	23	1 63	23					
Gall Lake (Fks. Swift Car.)	2.28 2.25	3	23 27	1 63 2 00	14					
Last Mountain	2 04 3 02 1 60	7 8 5	23 22 25	0 65 1 56 0 94	9 15	-				
Maple Creek Meadow Lake Nashlya (Kelvinhurst) Willow Creek (Battle Cr.)	2.47	4	26	1 97	15 15					
	0.40		0.4		10					
Cartwright Deloraine Gretna	0 49 0.59	6	24 26	0 14 0 30	13 14					
Norquay (Swaa Lake) Rapid City	0 61 0 31	7 2	23 28 28	0 30 9 22	11 2					
Rose Bank ONTARIO — Deer Park Dutton Emsdale Fort Frances Georgetown Grand Valley Indian Chutes (Elk Lake) MacCre Sydenham Strathroy	0.31 1.50	5	28 25	0 24	10 15					
Dutton Emsdale	0.71 1.91	5 11	25	0 21	1 6					
Fort Frances Georgetown	0.94	9	19 21 24	0 34 0 51 0 56	11 15					
Grand Valley	1.21 1.87 2.14	6 8 9	24 24 22 21	0 56 0 63 0 60	3 6 25				0	
MacCue Sydeaham	1.37	6 2	24	0.33	ti 14					
Strathroy Watford Westport Westminster Wooler Wesley Wattenwyl	1.37 1.55 2.27 2.08 2.38 1.30	8 8 5	28 22 22 25	0.85 0.56 0.73	16 <b>1</b> 9					
Westminster		5 4 7	25 26 23	0 73 0 61 0 92	20 16 16					
Wesley	1.30 2.58 2.40	8	22	0.48	3 16	,				
Wattenwyl. Wiatton Quenec- Lucare		5	25	1 38 1 20	13					
Lucerae. Perkins Mills. Quinze Dam Timiskaming. New Brunswick—	1 00 1 88 2 85	3 7 10	27 23 20	0 50 0 65	18 6 16					
Timiskaming New Brunswick-	2 51	9	21	0 59 0 58	16 5					
Nova Scotia—	1 03	6	24	0 54	16					
Big Mushamush Lake (Mu- hone) Kentville.	1 80 1 74	1 5	29 25	1 80 0 98	17 13					
Kedgemakooge Lake (New Grafton) Milton										
Miltoa Mushamash River (Mahone) New Germany	1 61 1.80	4 1	26 29	0 61 1 80	17					
New Germany South Altoa White Rock	2 81	10	20 24	0 80 0 42	15 7					

### PRESSURE, HUMBITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE

#### MONTH OF JUNE, 1912.

#### a Barometer not reduced to sea level

		1				Рне	SSUB	E.		idity.	ud.	etely			Dir	RECTIO	ON O	Wis	ID FI	юм			Vi	HOCITY WIND	OF.
STATION	Latitude N.		Longitude W.	Elevation above sea level, in feet.	Mean reduced.	Highest.		Lowest.	Range.	Mean relative humidity	Mean amount of cloud	No. of days completely clouded.	ż	N.E.	<u>i</u>	7. E	x	S.W.	W.	N.W.	C.	Total number of observations	Mean miles per hour.	Maximum velocity.	Date and direction from.
Biothsia Collembia— Athin Barkerville Kamboots Waxaanin Prince Rupert Tranghe Island Witanquille Vancouver Victoria	50 40 54 50 50 10	35 133 2 121 42 126 10 123 18 130 52 129 41 120 17 123 24 123	1 29 3 37 3 18 3 18 3 5 5 5	2240 4180 1245 125 170 680 136 85	29 9° 29 8° 29 9° 30 0°	1 30 4 7 30 3 2 30 2 3 30 3 8 28 6 1 30 3 2 30 3	113	.59	0.78	68 58 77 61 74 68	7 5 .5 .4 .9	. 5.	0 3 6 1 0 1	0 0 4 3 0 1 1	1 1 3 1 0 3 10 4	9 1 6 9 4 0 5	32 0 4 0 13 0 0 8	61 18 5 0 4 4 3 8 25	2 19 1 5  18 9 5	5 0 9 23 0	5 40 7 23 33 15 11	60 60 60	8.0 4 7 5.3 7.1 1 8 1.9 3 3 3 9.2	20 0 24 0 15.0 20 0 6 0 12.0 28 0	20 W
Yukon— Dawson	6.1	4 13:	÷ 20	1200																					
ALBERTA— Banit Calgary Edmonton Medicine Hat	54 54 53 50	10 115 2 114 33 11: 1 110	3 30	4542 3389 2158 2161	21 9 39 5 29 8 29 8	3 30 3 1 30 3 1 30 4 3 30 3	\$ 29 \$ 29 \$ 29 \$ 29	45 38 38 37	0 90 0 97 1 02 1.02		5 .5 5	2 2 3 2	1 4 3 2	5 7	4 0 5 2	16 11 3	0 3 4 7	12 1 4 24	7 1 9 10	0 23 13 4	31 5 4 6	60			
SASKATCHEWAN— Buttleford Moose flaw Prince Albert Qu'Appelle Swift Current		91 103	5 22	1620 1759 1432 2115 2439	20.0	ston a	clan	1 - 1		65 77 64 72			6 8 4 8	2 5 4	3 15 5	23 12 14 5	6 0 9 29	6 5 3 6	16 12 8 16	14 12 12 8	20 21 1 7	90 60			
MANITORA— #Aweme(St. Alban's) Mincedosa The Pas Winnipeg	49 50 53 49	42 99 15 99 49 10 53 97	33 50 I 15 7	1180 1699 860 760	29 9 29 8 20 8	30 4 8 30 2 9 30 4	3 29 12 29 11 19	45 08 47	0 97 1 14 0 94	64	.4	3	2 15 11	5 4	1 2 2	4 5 11	4 10 11	0 1 0	1 14 10	14 7 8	26 2 3	60			
ONTARD— Cochrine Halleybury Kineston Ottawa Parry Sound Port Arthur Port Stanley Southampton Stonechtf Torante Wandstock Wandstock	19 47 41 42 45 45 45 46 46 46	2 81 21 79 13 76 59 81 26 75 19 80 27 89 40 81 9 78 40 79 35 85 8 80	0 39 29 13 42 0 12 13 21 6	946 687 285 808 294 635 644 592 656 557	29 3 29 9 30 0 30 0 29 9 30 6 30 0 30 0 29 9 30 0	30 4 5 30 3	12 29 19 29 14 29 18 29 18 29 16 29 14 29 14 29 10 29	37 46 72 50 65 55 38 60 51 55 27	1 05 0 93 0 62 0 81 0 78 0 83 0 97 0 86 0 93 0 76 1 13	69	.3	3 4 2	13 7 1 1 1 3 5 0 5 0 7	5 3 8 30 23 8 22 20 5 · 3	2 0 1 19 5 1- 7 12 6 5 8	2 1 5 30 5 7 3 5 3 5 7 3 1 1 5	30 76 30 17 0 4 5	10 18 29 0 16 15 4 3 11 1 6	21 9 8 5 24 22 10 14 16 16	3 8 4 5 0 3 13 7 10 4 7	2 10 1 0 0 7 27 27 2 34 6	60 60 60 60 60 60 60 60	2 0	3.5	
QUEBRC— Father Point Montreal Quebec	18 15 16	31 68 30 73 48 71	19 35 13	20 187 296	29 8 29 9 29 8	3 30 1 4 30, 2 9 30, 3	.5 29	59	0 66		8 4 6	10 5 8	3 3 1	1 2 8	100	() 3 1	2 9 0	4 26 28	37 7 13	2 9 8	2 0 1	60			
Ni.w Birnswick— Chatham . Frederictor St. John	17 15	3 65 57 66 17 66	29 36 4	21 164 70	29.8 29.8 29.9	7 30,5 9 30 1 1 30 1	90 29 80 29 19 29	.45 52 51	0.75 0.68 0.68	70	. 5 6	1 2 6	1 0 7	1 4 1	5 4 2	1 8 5	2 7 24	10 17 5	23 24 2	13 25 13	0 I 1	90	9.8	21.7	7 NW
Nova Scotty— Habfax Sydney aWolfville Yarmouth	15	39 63 10 60 7 64 50 66	36 10 20 2	88 35 65	29 8	0 30 2 7 30 1 1 30 1 5 30 2	7 29	38	0.79		.7	14	8 9 3 6	9 3 3 2	0 3 4 0	3 4 1	4 1 4 14	5 3 8 14	15 15 24 9	16 13 13 12	0 3 0 2	601			
P. E. ISLAND Charlottytown	16	14 63	10	38	29.8	8,30-2	1 29	50	0.71				6	1	0	4	9	17	3	12	8	60			
NewFoundand Burin	17	0 55 43 54 35 59 34 52	10 17 10 42	27 30 27 125	29 S 29 7	2 30 1 5 30 1	0.29	30 91	0,80 1.12,	:	5	5	3 3	1 5	20	1.4	2 3	 5 11	20 20	7	1 0				
Renamby Prospect	1 22	17 64	46	151	30.1	7 30 3	2 29	89	0 43				4:	5	1	1	16	6	22	4	1	60			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF JUNE, 1912

Hilisdown			NO?	ND F.	5 //.T	N 01	ECTIO	DIR			
Athabasca Landing	Ober Charter	C.	N.W.	M.:		S.	S.E.	щ		ż	STATION
Didsbury	-		-					0	1	1	ALBERTA— Athabasca Landing
Halkark (Emsburg)											Didsbury
Loveland		0				6					Halkirk (Emsburg)
Macleod   2	5 (5()	6									Hillisdown
Pakan (Victoria)		0									Macleod
Ranfurly (Wattcfield)		8			,		()	]	6	6	Pakan (Victoria)
Crescent Lake		16	10		l	10	EO	12	1	8	Ranfurly (Waitefield)
Crescent Lake							1.2	0	1	0	SASKATCHEWAN—
Estevan											Crescent Lake
Indian Head		3						3			Estevan
Larchmount (Glenbryan)		()	16	()	17	()		,	_	.,	Grenfell (Brownhill)
Moosomin		4									Indian Head
Muenster (St. Peter's Monastery)	(1(1	()					2 * * *				Moosomin
Onion Lake		0									Muenster (St. Peter's Monastery)
Waseca				-					'		Onion Lake
Mantroba		()									Pense (Gatesgarth)
Berens River   Brandon   1   15   6   7   5   26   10   16   Hillview   4   9   6   6   17   24   3   21   0   Moose Horn Buy (Aitkensville)   8   10   4   5   9   7   3   6   8   Morden   6   2   1   5   11   7   10   11   7   10   11   7   10   11   7   10   12   7   10   12   7   10   12   7   10   12   7   10   12   7   10   12   7   10   12   7   10   13   7   10   13   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   7   10   14   10   10   10   10   10   10	30	()	5	5	5	2	9	2	2 1	θ	
Brandon											
Moose Horn Bay (Aitkensville)	1 90	4	16	10	26	5		4.			Brandon
Morden		()				, ,	17				Hillview
Oak Bank.         19         0         2         1         5         10         7         10         6           Stony Mountain         ONTARIO—           Agincourt         1         2         9         3         9         32         16         18         Alton           Beatrice         8         0         0         5         6         8         4         17         44           Birnam         12         5         13         5         8         2         9         4         17         45           Cinton         3         2         8         2         4         14         8         19         6           Cottam         19         0         8         1         18         0         14         0         14         0         14         0         14         0         14         0         14         0		8						,			Moose Horn Bay (Aitkensville)
Stony Mountain	1,117	,									Oak Bank
Agincourt 1 2 9 2 9 32 16 18 4 Alton	, (10)			1							Stony Mountain
Alton Beatrice    8   0   0   5   6   8   4   17   42											Ontario—
Beatrice	) 5)()	0	18	16	32	()	3	9	2	1	Agincourt
Birnam	2 90	19	17			· · · · ·	5	0	0	8	Reatrice
Clinton		-1-									Birnam
Gravenhurst   Lindsay   North Bruce   0   0   7   2   33   11   29   8   1   Orillia   0   0   0   5   6   9   6   4   1   Orillia   Original   Orillia   Original   Orillia   Original		0	19	8	14	4					Clinton
Lindsay	) 60	()	()	14	U	18	1	S	()	19	
North Bruce											
Orillia         0         0         0         5         6         9         6         4           Owen Sound         10         14         2         1         5         25         4         5         4         6           Port Dover         5         2         4         2         3         7         4         3         6           Scarboro Junction         8         24         2         0         4         24         35         1         6           Uplands         9         0         4         0         8         0         25         1         1           Wexford         0         0         0         5         0         3         10         2         8         2           Quebec         2         1         3         1         13         7         38         5         6           Quebec         2         1         3         1         13         7         38         5         6           Anticosti, Wett         12         5         5         0         28         2         14         24         2         14         24         2	1 90		8	99	11	33	.,	7	0 .		
Point Clark		()	4		9				0		Orillia
Port Dover											
Scarboro Junction   Stoney Creek   0   24   2   0   4   24   35   1   0   Uplands.   9   0   4   0   8   0   25   1   11   Wexford.   0   0   5   0   3   10   2   8   2   2   2   4   3   4   2   3   5   1   12   4   2   3   4   2   3   5   4   2   4   2   3   4   2   4   3   5   4   2   4   4		()									
Stoney Creek	1 30	()	;5	-1	/	- 3	2	4	-	0	
Uplands. 9 0 4 0 8 0 25 1 11 Wexford. 0 0 5 0 3 10 2 8 5 QUEBEC— Abitibi 22 1 3 1 13 7 38 5 Anticosti, W-Pt. 12 5 5 0 28 2 14 24 0 Anticosti, W-Pt. 12 5 5 0 28 2 14 24 0 Anticosti, Heath Point 6 9 7 0 2 18 19 18 11 Bicquet 1 1 8 0 1 3 35 22 20 0 Brome 11 2 4 1 10 13 39 7 1 Cape Chatte. 2 1 9 0 0 3 51 2 2 0 Cape Magdalen 0 1 3 1 19 2 1 45 18 Cap Rouge 5 4 0 0 0 1 3 51 2 2 2 Chicoutimi 0 21 0 9 0 27 0 33 0 Clarke City 2 7 11 0 7 2 0 1 0 0 New Brunswick— Dalhousie 0 1 0 6 3 9 2 9 0 Pt. Lepreaux 2 4 7 1 2 11 23 22 0	) 90	0	1	35	24	4	0	2	24	0	Stoney Creek
QUEBEC—         2         1         3         1         13         7         38         5         6           Anticosti, W. Pt.         12         5         5         0         28         2         14         24         0           Anticosti, Heath Point         6         9         7         0         2         18         19         18         18         19         18         19         18         19         18         19         18         19         18         19         18         19		1.3									Uplands
Abitibi	2 30	2	8	2	10	3	0	. 5	()	0	
Anticosti, W. Pt.	) 90	()	ã	38	7	13	1	3	1	99	
Anticosti, Heath Point 6 9 7 0 2 18 19 18 11 Bicquet 1 8 8 0 1 3 35 22 20 6 1 Brome 11 2 4 1 10 13 35 22 20 1 Cape Chatte. 2 1 9 0 0 3 51 2 2 2 Cape Magdalen 0 1 3 1 19 2 1 45 18 Cap Rouge 5 4 0 0 0 1 1 0 20 0 Chicoutimi 0 21 0 9 0 27 0 33 0 Clarke City 2 7 11 0 7 2 0 1 0 1 Chicoutimi Chicoutimi 0 1 2 1 0 9 0 27 0 33 0 Clarke City 2 7 11 0 7 2 0 1 0 1 Chicoutimi Chicouti		0	24		2		0		5		Anticosti, W. Pt
Brome		11									Anticosti, Heath Point
Cape Chatte.         2         1         9         0         0         3         51         2         22           Cape Magdalen         0         1         3         1         19         2         1         45         12           Cap Rouge         5         4         0         0         0         1         0         20         0           Chicoutimi         0         21         0         9         0         27         0         33         3         1           Clarke City         2         7         11         0         7         2         0         1         0           New Bronswick—         2         0         0         12         1         0         0         15         0         1           Moncton         0         1         0         6         3         9         2         9         0           Pt. Lepreaux         2         4         7         1         2         14         23         22         6		()				***					Brown
Cape Magdalen     0     1     3     1     19     2     1     45     18       Cap Rouge     5     4     0     0     0     0     20     6       Chicoutimi     0     21     0     9     0     27     0     33     0       Clarke City     2     7     11     0     7     2     0     1     0     1     0     0     15     0     1       New Bronswick     0     0     12     1     0     0     15     0     1       Moncton     0     1     0     6     3     9     2     9     0       Pt. Lepreaux     2     4     7     1     2     11     23     2     9		22									Cane Chatte
Chicoutimi	8 50	18	45	1	12		E	3	i		Cape Magdalen
Clarke City		()									Cap Rouge
New Brunswick—         0         0         12         1         0         0         15         0         1           Moncton         0         1         0         6         3         9         2         9           Pt. Lepreaux         2         4         7         1         2         14         23         22											
Dalhousie         0         0         12         1         0         0         15         0         1           Moncton         0         1         0         6         3         9         2         9         9           Pt. Lepreaux         2         4         7         1         2         14         23         22         0	0 30	()	1	17	-	/	- 0	1.1	_ ′	2	
Moncton         0         1         0         6         3         9         2         9           Pt, Lepreaux         2         4         7         1         2         14         23         22	2 30	2	()		()	$\Theta$	1	12	0	0	
		()				3		()	1		Moncton
Sussex 1 1 0 0 0 1 3 6 18		18									Pt. Lepreaux
Sussex	, , , , , , , ,	1.0	11	.,	1	- 1	1	U	1	,	Gussea
Nova Scotia—											
Kentville	0 30	()	()	18	3	3	1	1	I	3	Kentville
Parrsboro	30		6	()	10	1					
		0	23								Sable Island, E. Pt.
Truro											Truro
Whitehead	90	()	(5	3	48	11	. 3	.3	3	10	Whitehead

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF JUNE, 1912.

									Hou	rs Ent	ING							
STATION	4 a.m.	5 a m.	6 a m.	7 a m.	8 a m.	9 a m	10 a m.	11 a.m.	Noon.	Ipm.	2 p m.	3 p m.	4 p.m.	5 p m.	6 p m.	7 p m.	8 p m.	9 p m.
Victoria			19	. 45	53	59	69	72	72	67	60	55	. 53	47	43	32		
Salmon Arm			37	69	71	.75	75	71	75	70	71	73	71	69	. 66	54	18	
Napaimo		01	02	19	39	39	42	12	55	55	59	61	57	53	55	28		
Vancouver		09	35	.44	47	53	57	66	67	63	63	61	60	58	48	.27	.03	
Agassiz				25	47	60	61	60	58	61	57	. 53	. 38	42	33	15		
Tranquille			.15	.38	50	61	61	61	66	65	67	£6	61	57	47	.36	02	
Summerland .		20	.59	64	.65	68	70	71	72	72	7.4	75	.71	71	.41			
Kamloops		.15	43	.56	. 63	69	. 65	67	68	69	70	.68	64	63	57	41	. 15	
Edmonton		.27	. 47	68	. 69	76	79	54	85	80	83	.80	-74	62	59	.51	.17	
Lethbridge		. 22	72	.78	80	83	85	87	85	.77	73	.71	70	67	61	49	17	
Lacombe		. 14	54	66	.72	78	84	78	75	77 -	73	. 68	60	52	44	. 23		,
Medicine Hat		17	58	79	87	83	78	76	82	3.5	83	. 80	79	74	72	52	14	
Fort Dunvegan		.07	47	.60	69	66	72	7.1	75	70	68	61	52	53	49	. 40	.09	
Fort Vermilion		.07	32	62	71	71	75 ,	.80	71	69	67	.72	76	76 -	67	48	17	.01
Battleford	.01	45	.54	.80	85	500	93	94	73	87	88	.88	S7 1	84	82	76	45	.02
Indian Head		01	.33	. 55	66	61	72	77	82	80	80.1	. 80	76	74	59	24	02	
Monseyrw		. 34	. 52	71	70	76	79	80	78	81	83	.79	76	73	71	63	.18	
Scott		38	61	.77	73	72	70	73	74	75	83	.87	78	79	78	66	. 53	.06
Rosthein		30	60	87	85	90	91	90	91	87	sc 1	81	80	79	75	£8	34	
Brandon			01	. 18	. 56	78 -	77	76	78	76	64	60	59	56	40	.69		
Winnipeg		113	37	. 61	65	68	72	77	78	79	80	76	. 73	65	61	.31	.05	
Hasteybury		15	46	56	(0)	.62	69	63	65	67	67	65	61	55	56	.48	.03	
Woodstock			23	.56	64	69	71	73	75	78	81	.79	73	77	77	.41	.02	
Lindsay				.33	f2	.72	79	78	82	75	80	83	84	24	58			
Barrie			47	69	.77	.72	.79	83	81	80	84	.76	77	77	66	.39	.05	
Toronto		03	40	53	63	69	71	72	.72	73	.76	74	75	77	. 67	.54	.06	
Kineston .		08	36	68	67	76	77	77	69	69	70	.79	68	65	. 60	34	.01	
Ottawa .		.07	50	.67	.74	77	73	69	75	75	50	76	81	.80	75	.58	.11	
Montreal		07	46	. 55 )	60	.61	.70	74	7.5	. 73	74	71	71	70	. 58	28		
Cap Rouge .		.01	. 26	51	50	57	.58	. 64	60	56	48	. 53	56	.54	. 43	26	.01	
Queliec			24	.39	47	53	60	62	.63	.58	51	.52	55	47	42	24	.02	
Sherbrooke		07	25	46	.52	56	. 69	.68	. 73	.70	72	.70	68	.65	58	46	11	
Fredericton		02	30	63	.60	75	. 69	. 67	67	.66	65 •	.66	65	. 53	51	39	.08	
Charlottetown		.10	.42	. 56	. 58	, 64	. 61	. 65	.66	.65	. 73	63	64	.51	35	21		

	Vietoria	Salmon Arm.	Nanaimo	Vancouver	Agass,2	Tranquille.	Summerland.	Kamloops.	Edmonton.	Lethbridge.	Lacombe.	Medicine Hat.	Fort Dunvegan	Fort Vermilion	Battleford.	Indian Head	Moose Jaw	Scott	Rosthern.	Brandon.	Илппрее.	Haileybury.	Woodstock.	Lindsay.	Ваттіе.	Toronto.	Kingston.	Ottawa.	Montreal.	Cap Rouge.	Quebec.	Sherbrooke.	Fredericton.	Charlottetown.
Registered duration in hours	225	290	182	22 -	157	207	289	270	313	323	301	330	261	289	373	277	330	341	361	224	280	257	232	258	301	284	276	308	270	211	204	257	254	238
Percentage of pos- sible duration "	46	60	38	47	39	48	60	55	62	66	60	68	50	54	74	57	68	69	72	46	55	56	61	56	65	62	60	66	63	45	43	55	54	51
Difference from av-	+1				{ b		_		_		_	_			+27	+15				+ 5	+ 6	+ 1	+ 5	+ 3	+16	+ 6	_	+16	+13	_	-	_	+ 8	_
Maximum percent-	87	85	7.8	us	78	85	89	. 4	90	516	92	93	81	79	97	85	114	96	95	78	87	88	91	76	88	92	85	91	98	85	84	92	91	90
Date of maximum	6	~	7	t.	5	. 7	4	- 6	15	fi.	7	7	5	6	22	7	6	7	7	6	- 0	9	13	3	30	13	13	13:	9	11	11	9	8	- 4
Number of days completely cloud- ed		.3	6			4	2	6	2	1	2	2	3	4	1	5	2	()	Ð	3	2	1	0	1	1	2	0	1	0	4	5	3	2	4

#### Thunder Recorded-

- Dunstable, Alix, Waitefield, Brantford, Haliburton, White Shore Lake, Sion, Fort Qu'Appelle, Rathmullen, Hydraulie.
- Wesley, Jumping Pound, Dunstable, Point Clark, Madoc, Paris, Renfrew, Lucknow, Port Dover, Morden, Oakbank, Father Point, Winnipeg, Port Stanley, Goderich, Aitkensville, Birnam, Gravenhurst, Brome, Chicoutimi, Mistassini, Chicoutimi West, Port Burwell, La Tugue, Chaplin, Pambrum, Rathmullen, Stoneeliffe, Peace River Crossing.
- Wesley, Quinze Dam, Point Clark, Markdale, Clinton, Haliburton, Lucknow, Birnam, Mistassini, Pt. Lepreaux, Sussex, Chutham, N.B., Aitkensville, Gravenhurst, Truro.
- Daysland, Chicontimi, Mistassini, Chicontimi West, Chaplin, Quebec, Aitkensville, Hailey-bury.
- 5. Waitefield, Montague, Crescent Lake, Southampton,
- 6. Birnam.
- 7.
- Bardo, Pakan, Waitefield, Uplands, Renfrew, Chicoutinii, Lake Edward, Chicoutinii West, Lunnford, Sion, Pambrum, Ottawa, Stonecliffe, Quebec, Crawford Bay.
- 9. Daysland, Waitefield, Chaplin, Pambrum, Rathmullen, Saskatoon, Fruitlands.
- 10. Brome, Lake Edward, Montreal, Alberni.
- 11.
- 12. Lunnford, Fruitlands, Fort St. James.
- Campsie, Jumping Pound, Okotoks, High River, Daysland, Halkirk, Hillsdown, Pakan, Waite-field, Lunnford, Sion, Divide, Pambrum, Rathmullen, Saskatoon, Hydraulic, Wilmer, Salmon Arm, Quesnel, Okanagan Mission, New Westminster, Chilcotin, Keremeos.
- 14. Dunstable, Okotoks, High River, Waitefield, Alberni.
- Georgetown, Wattenwyl, Dunstable, Agincourt, Montreal River, Brantford, Paris, Clinton, Bruce Mines, Lucknow, Sion, Birnam, Providence Bay, Port Dover, Toronto, Port Stanley, Goderich, Uplands.
- Westport, Georgetown, Deer Park, Wooler, Campsie, Agincourt, Madoc, Haliburton, Renfrew, Chicontimi, Mistassini, Lake Edward, Sion, Toronto, Ottawa, Father Point, Quebec, Kingston, Port Stanley, Uplands, Haileybury, London.
- 17. White Rock, Fort St. James.
- 18. Deloraine, Cartwright, Little Qualicum.
- Deer Park, Birnam, Aweme, Hydraulic, Monte Creek. Alkali Lake. Stewart, Salt Spring Island, Fort St. James, Quesnel, Pemberton Hatchery, New Westminster, Chilliwack, Chilcotin, Alberni, Haileybury.
- Westport, Westminster, Agincourt, Montagne, North Gower, Paris, Lucknow, Birnam, Port Dover, Almonte, Brome, Mistassini, Princeton, B.C., Chagoness (Star City), Toronto, Ottawa, Montreal, Port Stanley, Hydraulie, Alkali Lake, Summerland, Salmon Arm, Rossland, Quesnel, Okanagan Mission, New Westminster, Hope, Chilliwack, Chilcotin.
- 21. White Rock, Okotoks, Windsor, N.S., Moneton, Sion, Port Stanley, Golden, Truro, Wolfville.
- 22. Caldwell, Pekisko, Jumping Pound, Dunstable, Daysland, Athabasca Landing, Mix, Hillsdown, Pakan, Waitefield, Lunnford, Sion, Aberfeldy, Rathmullen, Wilmer.
- 23. Dunstable, Harmattan, Waitefield, Lunnford, Sion, Aberfeldy, Mucuster, Saskatoon, Yellow Grass.
- Cartwright, Halkirk, Waitefield, Ninette, Almasippi, Treherne, Aweme, Virden, Sion, Chaplin, Pense, Muenster, Garry Point, Priddis.
- 25. Campsie, Mayeroft, Jumping Pound, Nanton, Halkirk, Waitefield, Montreal River, Schreiber, North Gower, Brome, Okanagan Mission, New Westminster, Hope, Grand Forks, Glacier, Creston, Chilliwack, Chilcotin, Keremeos, Haileybury, White Shore Lake, Abitibi, Princeton, B.C., Luunford, Siou, Maple Creek, Melfort, Rathmullen, Saskatoon, Hydraulie, Canoe Point (Annis), Ferguson, Nakusp, Wilmer, Fruitlands, Salt Spring Island, Summerland, Salmon Arm, Rossland.

- 26. Lethbrold Gleichen, Halkirk, Harmattan, Waitefield, Montreal River, Princeton, B.C., Sion, Chaplin, Prince, Saskatoon, Chatham, N.B. Monte Creek, Canoe Point (Annis), Nakusp, Wilmer, Fruitlands, Summerland, Salmon Arm, Okanagan Mission, Nelson, Grand Forks, Colden, Glacier, Chilliwack, Crawford Bay, Keremeos, Peace River Crossing.
- 27. Brooks, Caldwell, Campsie, Pekisko, Jumping Pound, Dunstable, Okotoks, Nanton, Halkirk, Waitefield, Macleud, Rathandlen, Yellow Grass, Monte Creek, Ferguson, Nakusp, Wilmer, Crawford Bay, Chilcotin, Lumnford, Sion, Maple Creek, Willow Creek, Meadow Lake, Aberfeldy, Chaplin, Crescent Lake, Pambrum, Melfort, Muenster.
- Cartwright, Bittern Lake, Jumping Pound, Daysland, Halkirk, Harmattan, Pakan, Waitefield, Treherne, Aweme, Lumford, Sion, Willow Creek, Chaplin, Divide, Pambrum, Okanagan Mission, Golden, Chilcotin.
- Halkirk, Waitefield, Kakabeka Falls, Almasippi, Princeton, B.C., Macleod, Maple Creek, Chaplin, Pense, Pambrum, Melfort, Macnster, Rathmullen, Saskatoon, Port Arthur, Hope, Chilliwack, Chileotin.
- Ninga, Chiplin, Pense, Chagoness (Star City), Pambrum, Melfort, Mnenster, Yellow Grass, Finitlands, Keremeos,

#### Auroras Recorded—

21. 22. 23. 24. 25. 26. 27. 28. 29.

	The other recorded
1.	Chicoutimi.
2.	Edmonton III.
3.	
4.	
5.	Sion, Pambrum II.
6.	Cartwright IV, Sion, Pambrum II, Gravenhurst IV.
7.	Schreiber III, Lucknow IV, Port Dover, Almonte, Estevan II, Quebec IV, Salt Spring Island, Madoc III, Haileybury I.
8.	Aitkensville II, Mistassini III, Quebec IV, Montreal II, Port Arthur II, Haileybury 111.
9.	Mistassini IV.
10.	
11.	White Shore Lake IV.
12.	
13.	White Shore Lake IV.
14.	
15.	
16.	
17.	
18.	
19.	White Shore Lake IV.
20.	White Shore Lake IV.

#### FORECASTS FOREJUNE 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1222 These were divided as follows:—

	+ -					
yk.		No.		VERIFI	ED.	
	District.	Issued.	No. Fully.	No. Partly	No. Not.	Per- centage.
Alberta		74	60	11	3	88 5
Saskatchewan	**	72	60	10	2	90.3
Manitoba	2.6	73	61	9	3	89.7
Lake Superior	( Sim	. 110	59	17	4	88.6
Lower Lake Region .		116	106	9	1	95.3
Georgian Bay		116	94	17	5	89.4
Ottawa Valley		99	74	19	6	84 3
Upper St. Lawrence		98	78	16	4	87.7
Lower St. Lawrence		. 115	92	15	8	86 5
Gulf		117	89	23	5	85.9
Maritime Provinces West		116	87	23	6	84.9
Maritime Provinces East		116	87	25	4	85 8
Total		1222	977	194	51	87 9

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, July 26, 1912.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVI.

JULY, 1912

No. 7

#### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE.

#### BRITISH COLUMBIA.

On Vancouver Island and at the mouth of the Fraser the normal temperature was exceeded by about 1, but elsewhere the mouthly mean was less than the normal, the departure ranging as high as 4° in the Kootenays. In the southern interior 90 was exceeded on the 19th, 30th, and 31st.

#### THE WESTERN PROVINCES

Throughout Alberta and Saskatchewan the mean temperature was from 3 to 5 below the normal, and at Athabasca Landing 6° below. In Manitoba the deficiency was not so great, ranging between 0.5° and 2°. The first day was very hot, maxima exceeding 90 throughout the provinces, and exceeding 100° at a few points in Manitoba. On the 15th, 16th and 17th, minima were recorded lower than 40°.

#### ONTARIO.

In this province the differences from normal mean temperature were very irregular, both positive and negative departures occurring in all districts. The average of 42 stations showed a negative difference of one-half of a degree for the whole province. From the 4th to the 11th, temperatures ranged well above 90°, and at a few places executed 100°.

#### QUEBEC.

At Montreal, Quebec and Chicoutimi, the mean temperature is collect the normal by about 2 obtailed but elsewhere in the province there was a negative difference, and money given at Abitible at 4 free 1 to 4 in the Lower St. Lawrence and the Gulf counties. From the 4 of the 100 of the counties of very warm weather.

#### MARITIME PROVINCES.

Differences from average temperatures were in most instances less than 1. From the 7th to the 10th, maxima ranging between 90 and 98° were registered, except at Yarmouth in the extreme southwest of Nova Scotia, where the highest temperature of the month was 78°.

#### PRECIPITATION.

#### BRITISH COLUMBIA.

On the Queen Charlotte Islands, the northern portion of Vancouver Island, and on the northern coast, the precipitation was a little less than usual, but elsewhere there was an excess over the normal amount, which ranged between 20 and 50 per cent. In the southern interior rain fell frequently, especially in the Kootenays, where showery days numbered from 12 to 19.

#### THE WESTERN PROVINCES.

In nearly all districts of the western provinces there was an excess over the normal precipitation. This excess was greatest in Manitoba, ranging between 2 and 4 inches. At Brandon, where the normal fall for July is about 2 inches, the actual depth measured was 6.5 inches. At Winnipeg the normal amount is 3.3 inches, but 6.1 were recorded. In Saskatchewan there were also instances of heavy precipitation, as at Battleford and Prince Albert, where double the usual amount was recorded, but large excesses were not of general occurrence in Saskatchewan and Alberta, while there were local deficiencies near the International boundary. The rainfall was, however, in all cases well distributed throughout the month.

#### ONTARIO.

More than the usual amount of rain was recorded in the Rainy River and Nipissing Districts, the southern counties bordering on the Georgian Buy, the east-central counties of the Peninsula, and the Lakes St. Clair and Eric counties. Less than usual was registered in Algoma and Thunder Bay Districts, the northern counties bordering on the Georgian Bay, the counties on the Upper St. Lawrence and the Lower Ottawa and the Niagara Peninsula.

#### QUEBEC.

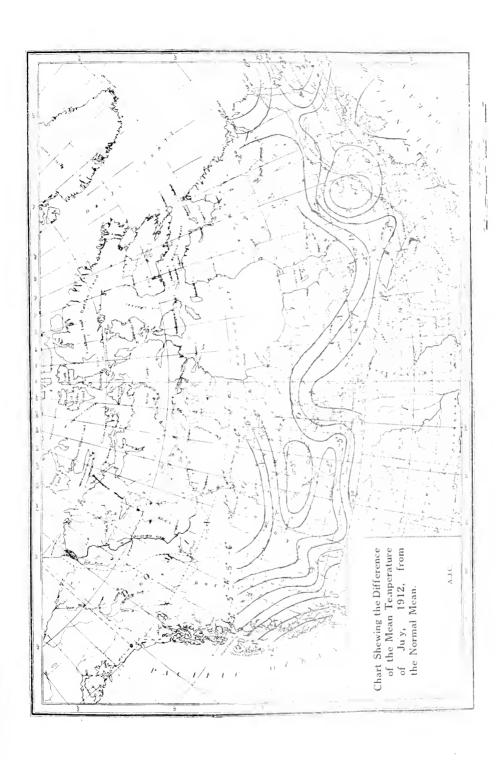
Along the Middle St. Lawrence there was a large deficiency, ranging between 25 and 40 per cent, of the normal. In the counties of the Lower St. Lawrence and the Gulf, however, there was an equal excess.

#### THE MARITIME PROVINCES.

At Yarmouth and Point Lepreaux there was a very small deficiency, and at Sydney one of 30 per cent,, but elsewhere in these provinces there was an excess which was, in most instances, large.

#### ATMOSPHERIC PRESSURE.

The values of the mean atmospheric pressure at the telegraphic reporting stations in Canada were generally in excess of the average, but in the interior of British Columbia and over the greater part of the Maritime Provinces did not reach the normal. Positive departures of 0.10 of an inch were noted in Alberta, but the difference was in most districts 0.05 of an inch. In Prince Edward Island the mean value was in defect by about 0.07 of an inch, and in the interior of British Columbia it was about 0.03 of an inch.



#### HIGH AREAS.

Six areas of high pressure were charted. Two entered the continent over southern British Columbia, while the others were first charted in the northern part of the same province. All passed across or near the Great Lakes. Three moved off the Middle Atlantic coast; two passed over the Gulf of St. Lawrence and Newfoundland; while the remaining one, which was not of great importance, dispersed to the northward of the Ottawa Valley.

#### LOW AREAS.

Six areas were charted. Two, apparently, moved down from Yukon, one of which was accompanied by a subsidiary development over the Western States. Three first appeared to the northward of Alberta, and one developed in the Southwest States. Four of the areas passed across or near to the Maritime Provinces, but only one was accompanied by a moderate gale. Of the remaining two, one dispersed over the St. Lawrence Valley, while the other passed off the Middle Atlantic coast, and was absorbed by another of greater energy.

#### FREE AIR DATA.

During the series of ascents from the 1st to 5th July, an area of high pressure lay off the Middle Atlantic coast, with low pressure conditions west of the Mississippi and in Canada north of the 49th parallel. Weather during this period was unusually hot over Ontario.

Ascent on the 1st July-Balloon not found.

# FREE AIR DATA.

# REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Eat. 43 S N , Long. 80 47 W. o. J.ly 20 . 10]

Instrument—Dines Meteorgraph, Beginning of Ascent—La.m., G.M.T.; Barometer—741 mm. Temperature—14 C. Direction of flight at beginning—West. Fell 484 m (0 + 1 + 1 + 1 + 5 M). Maximum Height 11 to 4.5 C.

Height in km. above S.L	Pressure minim.	Fengera, rem	Centigra de como
G.L3	- 741		14
4.0	470		
4.5		1.3	0.5
5.0	441	0.5	3,5
	413	† +3	7.5
5 5	1.20	7.5	11.5
t <sub>2</sub> ,0	362	12.5	16.5
6.5	.341	16,0	19-0
7.0	318	19.0	22.0
7.5	207	23.0	24.5
8.0	277	20.0	28.0
8.5	258	\$10,00	31.5
9.0	240	33.5	35.5
9/5	221	'o 5	40,0
10.0	208	10.0	- 44,0
11.0	178	48.0	51.3
12.0	153	51.5	- 56,5
12.5	111	58,0	61.5
13.0	130	63,0	65,11
13.6	119	—17	4.0

<sup>\*</sup> Tirre and up to 4 km, was obliterated on the chart.

(Lat 43 8 N , Long. 80 47 W ) on July 3rd, 1912.

Instrument Dines Meteorograph. Beginning of Ascent I a.m. G M T.

Barometer 741 mm. Temperature 24.5 C.

Direction of Flight at Beginning-Northcast.

Fell 86 km. distant, N. 5 W. Maximum Height—17.2 km. Minimum Temperature — 66.0 C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	lentigrade degre
G.L = a	741	2-	1.5
ñ	722	19	). ()
1.0	680	10	5.0
1.5	641	1:	3.0
2.0	603	10	) 5
2.5	569	:	8_0
3.0	534	(	3 0
3.5	502		4 ο
4 (	471	;	2.0
‡ 5	442		1.0
5.0	4115		3.5
5.5	389	_	7 0
6.0	366		9.5
6 5	342	—12 Ø	- 13.0
7 11	321	15.5	-17.5
7.3	300	-19.0	-21.5
8 0	281	-22.5	-25.0
8 5	262	-26.0	30.0
9-0	244	-30.0	34.0
9.5	227	-34 5	-38.0
10-0	211	-37.5	-42.0
11 0	182	-45 0	-47.5
11.1	172	-47 0	-49.0
12.0	156	-5	1.5
1.3 ()	133	-5	9.0
14-0	114	<b>−</b> €	4.5
14-4	106	- 6	66.0
15.0	96.5	—6	6.0
[6-0	82 0		i5.0
17.0	69-8		64.0
17 3	68-0		64.0

(Lat. 43° 8'N., Long. 80-47' W.) on 4th July, 1912.

Instrument—Dines Meteorograph, Beginning of Ascent—1 a.m. G.M.T. Barometer—737 mm.

Temperature = 23 0 C.

Direction of flight at Beginning-North by east.

Fell—142 km. distant N.E. Maximum Height—12.2 km. Minimum Temperature—-55.0 C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	entigrade degrees
G.L. = .3	737	- 23	(1
.5	719	25.0	22.5
1.0	678	24 0	20 0
1.5	639	21 0	17.0
2.0	601	18 0	14.0
2.5	568	15.0	10.5
3.0	534	11.5	7.5
3.5	502	8.0	1.0
4.0	472	4.5	0.5
4.5	444	1.0	2 11
5 0	417	2 )	5 5
5.5	390	5.0	9 ()
6 ()	365	7.5	12.0
6.5	343	11.0	15.0
7 0	320	15.0	18 0
7.5	300	18 5	20.5
8 0	280	-21 5	24.0
8.5	262	24 0	28.0
9 0	244	27 5	31 0
9.5	228	32 0	31.0
10.0	212	36 0	39-0
11.0	182	- 45 0	46.5
12.0	156	52 5	-53 0
12.2	152	5.5	

(Lat. 43-8' N., Long. 80-47' W.) on 5th July, 1912.

Instrument—Dines Meteorograph. Beginning of Ascent—1 a.m. G.M Γ. Barometer—735 mm.

Temperature 24.0 C.

Direction of Flight at Beginning-East.

Feil—60 km. distant, S. 70 E. Maximum Height—16.4 km. Minimum Temperature = —65 C.

Height in km, above S.L.	Pressure in mm.	Temperature in C	entigrade degre <b>e</b> s
G.L. 3	735	24	.0
5	717	23	.0
1.0	675	20	.0
1.5	636	16	,5
2.0	600	13	.0
2 3	580	11	.5
2 5	564	11.5	10 0
3 0	532	10.0	6.5
3.5	500	5.0	2.0
4 0	469	0.5	3.0
4.5	440	= 3.5	- 6.0
4.6	433	4.0	- 6.5
5 0	411	- 6.0	- 7.0
5.5	387	— <del>7</del>	7.0
6.0	362	-10	.5
6.5	338	—1-	1.0
7.0	317	-18	8.0
7.5	297	-25	2.0
8 0	277	-29	5.5
8,5	258	29	0.0
9 0	240	-33	3.0
9.5	222	_3	7.0
10 0	208	-4	1.5
11-0	179	-49.0	50.5
12.0	153	-55.5	-58.0
12 6	138	<b>-6</b> 0.0	-61.5
13.0	130	6	3.5
13.9	113	6	5.0
14.0	111	-6	5.0
15 0	960	-6	3.0
16.0	798	-6	3.0
16-4	750	—6	3.0

(Lat. 43 8 N., Long. 80 47 W) on 6th Ja'v, 1912.

Instrument—Dines Meteorograph. Beginning of Ascent—La.m. G. M.T. Barometer—738 mm.

Temperature = 24 0 C.

Direction of flight at Beginning Straight up.

Fell 45 km distant, N. 45 W. Maximum Height 18.8 km. Minimum Temperature 65 C

Height in km. above S.L	Pressure in mm.	Temperature in C	Centigrado degrees
G L + 3	738		.4 ()
. 5	720		25.0
1 0	679	20.5	16 0
1.5	640	18 0	16 0
2.0	602	16.0	14 0
2 5	568	12 0	10.5
3.0	532	8.5	6.5
3 5	501	5.5	3.5
4.0	471	1.5	0.0
4.5	442	- 2 5	- 3.5
5.0	416	- 5.5	- 6 0
5.5	289		8.0
6.0	364		11.5
6.5	341		14.5
7.0	319	-	18 0
7 5	299	1	20. 5
7 6	294		21 5
8 0	279	-23 5	24.0
8.5	260	-26.5	-28 0
9.0	242	29 0	30 5
9.5	227	32.5	- 34.0
10.0	210	.37 0	38.5
10 3	202	(5) ()	41.5
11.0	181	45.5	46.5
11.5	168		5(1-()
12 0	155		5.3 ()
13 0	133		58 0
14.1	112		61 5
15 0	96		64.0
15.7	87		65 U
16.0	81.4		65, 1
17.0	69 2	4	61.5
18.0	58-9		62 0
18-8	52 0		60-0

121 WINDS, JULY, 1912

PROVING	21 × 4×10 ×1	ATIONS	, Total Mileage	Greatest Milenge in 24 hours	Greatest Mileage in one hour.	Number of days of Gales.	Number of days of Strong Winds.	Number of days of Fresh Winds.	GENERAL DIRECTION.
E	ansat Corrab	14							
Victoria . Point Garry			<b>5</b> .137	425					811.
	AIPPPTA								
Udraonton Cairary			3742 4228	237 495	16 27		3	3 3	NW. NW
4	24 USA (T) T) 387								
Buttleford . Qu Appella			6933	331	24		. 4	î	NW.
	WASH08A								
Winnipeg . The Pas .			7338	400	30	1	11	7	SE.
	ONT-RO								
Port Arthur Parry 8 and Southampton Woodstock Loconto			58 14 4062 4154 4048 608 (	427 285 346 208 318	39 18 24 23 31	3	4 5 1 12	7 3 6 3	NW. W. N. SW. N. & NE.
	District								
Montreal Queher Anticosti			554 1 7797 7985	418 416 670	25 37 41 -	1 2	10 9	9 12 11	SW. NE. SE.
MAR	atime Proviso	FS.							
Fredericton St. John Halifax Flat Point Charlottetown Point Escurionae			1395 6758 6964 7637 3631 9714	259 592 519 386 358 797	23 35 40 41 26 37	1 2 4	1 5 4 13 4 10	11 5 12 5	NW. SW. W. SW. SW. NE.

# TEMPERATURE AND PRECIPITATION AT STATONS

\*Stations not firm.-( ) | 0 | 1 | 1 | 1 | 1 |

							11 -				
STATION.	Tatitude N	/ Lengtinde W	Elevation above sea   level, in feet	Мень	Defection from	A r - Ob ony almor-	-	9.0	Lower	The distribution of the di	
BRITISH COLUMBIA—											
i. Vancouver Island											
Albern (Beaver Creel, Clayoquot Cowieban (Tzoahalem) Ladher Nanaimo Nanoose Bay salt Spring Island, Sooke Victoria	## 15 ## 11 ## 25 ## 25 ## 10 ## 17 ## 47 ## 41 ## 23	124 47 125 75 127 42 127 42 127 47 124 72 125 44 127 127	27 170 125 13 ·	1 × 4 ± 2 ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±	- · · · · · · · · · · · · · · · · · · ·				:-		
V. Taucouver Island											
Holberg Swanson Bay Triangle Island Winter Harbour Quarsino	50 52 50 53 50 53	125 15 126 3 127 4	680	5" T	2.1						
tawer Fraser Keeve											
Agasy 2 Chillwack Hope New Westminster North Nivoneen Pemberton Harchiery Ruskin Stave Falls) Steveston Garry Point Vancouver	4 + 14 49 + 2 4 + 14 50 + 2 50 + 2 49 + 21 49 + 21 49 + 21	121 07 121 37 121 23 122 34 122 12 122 13 123 23 124 17 123 17	52 21 500 500 500 125	11	- 4				4		
Upper Fraser River											
Babine Lake Barkervillo Chilestin Big Creek Fort St James Squarts Lake Quesnelle	55 (2) 51 40 54 55	124 2 121 35 121 6 124 12 122	4180 3100 2280 170	35 2 17 4	- ,						
Okanagan Valley											
Hedley (Nickel Plate) Okanagan Mission(Kelowna) Pentieton Princeton Summerland Vernon Caldstream Ranen	49 . 5 49 . 15 49 . 29 40 . 29 40 . 57 50 . 14	120 10 119 20 110 35 120 20 110 0 110 15	1571 1205 1656 111.0 1246	67 8 5. 5. 63 1 64 5 64 1 64 1		11/11/11		-			
West Kontenny											
Crawford Bay Frutvale Grand Forks Greenwood Kasla Needles Nelson Rossland	40 20 40 52 40 52 40 5	117 11 118 27 117 0 117 18	1752 1760 5400	61 5 63 7 63 7 62 9 60 3	- 4 2		1		13 4		
East Kootenay											
Akamina Cranbrook Tobacco Plains Edko Wilmer	4 + 11 49   1 50   74	115 5 115 5 116 14	2684	73 c 72 c 38 g							
Thompson River				-							
Boswell Enderby Kamloops Nicola Lake Salmon Arm Salmon Arm Tranquille	50 32 50 41 50 9 50 42 50 41	119 7 120 29 12 : 39 115 55	1180 1245 2120 1152	165 F 166 2 111 4 1 1 1 162 5 1 1			-4				
North Columbia Ricer											
Golden Glacier Revelstoke	51 16 51 14 51 0	115 55 117 19 118 6	255 4072 1476								

# TEMPERATURE ASD PRECIPITATION AT STATIONS IN THE DOMESTON OF CANADA, JULY, 1912.

"Stations not furnished with Registering Phermemeters

		*********	is the termination	., .,								
				Tis	dPLRATURE		1	RESTRICT	10X g		,	
8141107	Latrinde N	Elevation above sex level, in feet	Mear Diference from average	Ar stibservations	Date	Dowest	Mean darige tange	Inflorence from	Beaviest fall in meanth   Dayswith 0 for mor	No of fair days. [No of autoras	No. of thunderstorms	No. of fors.
Biogram Continual Con-												
North Coast												
Bella Coda Prince Rupert Stewari	2 40 126 54 4 18 130 18 5 1 13) 1	150 170 215	61 6 0 1 57 5 —	1 15 57 1 81 2 81	0 17 18 1 0 21 1 0 19	29 0 1 1 46 0 13 15 10 0 31 ,	25 1 1 11 0 3 21 1 1	25 -1 42 41	0.52 7 1.32 10 0.40 10	24 21 21		3
Queen Charlotte Islands Beela Bay Massett	52 17 131 7 53 58 132 9	5 30	62 2 57 7 0	1 15 70	1 d = 19 1 d = 24 ui	52.0 (1) 11.0 (1)	6.3	(30 <b>−</b> 2 5)	0.09 6	25		
Yakun Banadara Athu	51 35 133 8	2240	53-2	6 7	ra (18/2)	35 0 P	PI 4 1	G0 -	9.18 8	23 .	:	
YUKON Caroties Dawson	(4   14   134 34 64   4   139 29	2171 1200	W 1 -	1 73	5 0 1 ( 2)	Ja 0 To	% 2	16 -	1 35 - 2	23		
Armana —  N. Sanskatchi usun Brese Dayshud Education Endang Gill Edge Historia (Lindon 2) Pakkan (Anetonia) Radinity (Watefield) Wetaskiwa	55 52 412 17 55 83 113 50 52 0 112 0 52 59 110 45 52 17 113 10 52 30 114 50 11 6 112 31 53 29 111 38 52 58 113 23	2000	$\begin{array}{c} 55.8 \\ 58.3 \\ 51.3 \\ 55.3 \\ 56.8 \\ 56.9 \\ 61.3 \\ = a \end{array}$	3 7	1 0 31 2 0 38 8 0 31 8 0 31 8 1 9 31 2 0 28	32 0 11 35 0 14 31 7 0 36 0 11 35 0 14 31 8 14 31 9 14 41 0 13	10.0	9 18 — 4 70 ±1 0 4 07 — 1 38 — 5 40 — 3 88 — 5 10 —	2 01 17 1 1 15 17 0 75 18 0 81 19 1 17 18 1 50 1 0 88 2 1 00 3	5 16 . 5 15 8 18	. 1 	
$The\ Red\ Dorr\ River$												
Alty Delty Delty Delty Delty Eskyville Harmyttan Hillsdynn Lycomba Oven Red Deer Threehills Creek The Boar River	52 24 115 50 51 88 112 25 51 40 114 8 52 23 114 22 51 45 114 23 52 14 115 29 52 58 115 44 52 16 413 49 53 30 415 11	0301 4301 2803 2783	58 1 57 2 57 3 4 53 2 57 4 56 5 58 2	7 H S	8 0	24 0 14 25 0 14 32 0 14 29 0 14 32 6 14 30 5 11 34 6 13	22.3	5 15	2 01 2 1 55 2 1 32 1	4 17 3 18 2 9 1 0 11	1 1	
Berry Crock Brasks Cyderry Cyrksin Parksin High River Lawrence (Parkand) Letthiralge Letthiralge Letthiralge Madesol Madesol Mathematika Parksin Parks	50 34 111 58 51 2 114 2 70 159 112 51 50 59 112 51 50 35 113 38 50 16 113 29 10 12 112 51 10 13 112 51 10 14 113 21 50 1 110 37 10 6 112 33	2952 3394 2961 2961 2161 3750	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	\$ 10 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	55.0 34 9.0 20 84.0 31 84.0 31 85.6 31 93.5 31 93.0 30	34 0 14 35 0 14 35 0 20 36 0 43 39 0 14 40 0 13	21 1 22 1 25 3	0 87	$\begin{array}{c} 0.05 & 1 \\ 0.05 & 1 \\ 0.92 & 1 \\ 1.37 & 1 \\ 1.149 & 1 \\ 0.026 & 1 \end{array}$	0 21 3 18 5 16 4 17 2 19		
Rocky Mountain Bunff	51 10 115 34	15.10	53.2 = 3		s2.9 .00	30.9 11	21.7	5.05 +2.3	7 0 89 1	0 12	. 2	
Blairmote Athabasca Roser	19 10 114 30	4542 4225	3	. 0 7		03 t		. 10 ( )				
Arhaleisea Landoe Lumuord Pembara	54 43 143 17 51 53 164 B 51 12 114 5	[650	$ \begin{array}{rrr} 54 & 4 & = & 6 \\ 55 & 0 & \\ 56 & 0 \end{array} $	15 1	(3.0 31 (3.0 11 (7.0 1-30	31 0 17 28 0 11 30 0 8	25 A 21 0 48 A	2 % = 5 60 = 8 00	111 1		. 3	
Pears Rever  Dinversa Fort Vermilion Eart Vermillion (2) Peace Rivet Crossiae Spirit River	0 55 118 35 5 27 116 3 5 15 117 15 5 30 118 47		5 ) 5 56 3	7	89 0 - 41 81 3 - 21	28.9 14 25.0 H	34.5	0 53 — 1 37 —	0 21 + 41	9 29 9 22		

# TEMPERATURE AND PRECIPITATION AT STATIONS

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		15.05				1.				
STATION	Lantade N	Hovertion adoxe level, in be t,	Mesn		-		Mass			
SETTIN WIN-										
Qa'Appelle Recer										
Bron Iview. Brownfull Grenfeil Brownfull Crestent Lake Crestent Lake Staysin Fort Qa'App ille Hubbard Drunnigne Humbylt	50 27 10. 50 24 1 2 7 50 45 10. 0 50 50 102 0 49 42 1 0 4	1957 1957 1658 1858	. 5 · 6 · 6 · 6 · 6 · 6 · 6 · 6 · 6 · 6 · 6							
Hubblard Diamagne Humb delt Innor al Indan Head Major Major Staw Major Staw	51	1924 2064 1750 1884	1.1	1.4						
Muchaster St Peters Mon Pilger Peras Gatestith QTAppelle Quil Laks Region	57 0 11 5 5 57 0 11 5 7 52 0 16 5 0 52 25 165 0 50 28 1 5 0 50 3 103 F 52 4 104 B 50 27 104 7	1850 1870 1879 2115 1700 1885	61 6 54 9 58 5 50 5 50 5 60 5 60 5	1 7 4 1 7 7						
Srissburg Yarbo (Fairfield) Yellow Grass Yorkton	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		6 2 6 5 60 8							
S. Saskotchevan Eccer										
Chaplin East End K Avidurst Literam and Ciledar an M ple Creek, Divide Olivet Rathmullen	50 26 196 19 49 31 288 44 49 21 1 6 9 49 54 107 27 10 55 1 0 28 51 46 308 10 51 20 108 57 50 26 197 45	3500 	50 7 62 1 50 8 57 0 50 0							
Switt Cartest  N. Suskittehe wan Africa	50 20 107 45	2439	h2 0							
Battleford Lloydminster Luseland Oupon Late Prince Mesta Seate E. L. Com	52 41 198 20 53 18 110 0 52 5 100 34 53 52 199 50 51 6 108 20 51 50 109 20 53 6 109 20	1620 1700	61 7 51 7 53 0 57 8	1		-			3	
Waser i  The Sustantehewith Forks	54 8 100.20		57 8							
Chag mess (Star C + ) Duck Lake Molfort Primer Albert Rischern Siskari out	52 02 104 13 52 51 100 20 52 47 104 10 54 10 100 0 52 40 100 20 52 15 100 31	H (2) 1657 1571	57 6 58 8 57 8 57 8			10 12 10 10 10	4			
Lower Saskatchewan River										
Lost R ver Cumberland House Manifola—			57. 2			-1 1				
Qu'Appelle amt 4 sini boine Rivers										
Awenne (St. Alban-) Boiss wann Brandon Carberry . Carman	49 42 59 . 50 25 101 1 49 51 90 57 44 52 99 20 49 31 98 0	1180 1703 1176 1278 872	65 6 64 5 61 2	- 2 n 1 2						
Cynne - River H-llynew Minnedoea Nimete Nimea Poetson Poetson Portage la Practie Portuge la Practie Trefuerie Virden	19 55 (0) 3 19 55 (0) 43 50 15 (0) 45 50 14 (0) 48 40 14 (0) 48 40 14 (0) 48 40 15 (0) 5 40 5 (	1332 1490 1640 1863 1649 1591 1100	61 1 61 1 61 1 61 1 61 1 61 1 61 1 61	- 1						
The Red River Almasipa Morden Oak Bank Stony Mountain Wanapeg	49 14 14 20 49 11 98 6 49 57 99 42 57 40 97 11 49 50 97 7	250 250 260 260	64 7 +4 1 61 1 (1 0 65 1		1.					

\* Stations not furnished with Registering Thermometers

								lewikk	VII RE.				Pice	CPHIATE	on.	re.			ri.	
STATION			Longitude W.	Elevation above sea level, in feet	M+1.	Difference from	Ar's deservations	Mighert	Bute	Lowest.	Date	Mean daily range	Amount	Difference from average.	Heaviest full in month.	Days with 301 or more.	No of fair days	No of autoras.	No. of thunderstorms.	No. of fogs.
Masarona Continued						-										-	_		_	_
Dauphin Lake and Eco + Dauphin Moore Horn Bay) A(k-s- yille) Berens River	51 -4 -2	, 8 15 15	160 d 99 33 7 21	957 1716	51.4		3	88-0 90-4	2	38 0 33 3	15 21	17 T 17 6	5 01 2 13	-	1 33 e 54	14 14	23	 I	9	1
Lake Winnerproposis Swan Rivet . The Pas		16 49	101 15 101 15	1113 566	r 0			82.0	1	18-0	21	1- 5	4.39		0.88	16	15		. 3	
NTARIO-																				
The Lake Superior Districts Recent River (Kellota	49	4.	14.02	1102	57.5	- 0 4		81.0	-	39-0	15-17	19.6	4 48	÷e 89	1.06	12	19		4	
Thunder Eau Kakabeka Lills Port Arthur Schreiber	15	25 27 50	\$9.12 87.15	012 641 551	61 5 60 3 58 7	1 1 2 6	4 12 13	92 H 79 D 83 T	4	14 0 ±0 0 36 5	1+ 10- 10	27 0 18 3 22 7	3 28 1 97 4 70	- <u>1</u> 86	0 75 0 74 1 30	11 10 13	20 21 18		5 4 3	2
Algoma Bruce Mines Copper Clift Porcuping Providence Bry White River	10 10 15 15	18 30 20 40 35	83 55 80 59 81 18 82 11 85 16	595 1252	64 7 66 7 61 0 62 3	8 1 - -	14	\$5.0 92.0 53.0 \$1.0	5 5 10	56 0 45 0 17 8 50 0	15 17 26 18	21 0 21 3 24 3 22 1	0 79 2 20 — 0 13		0 25 0 92 — 0 13	10 1	25 21 - 30		5 1 3	2
Nipessing Cachiane Haileylory Montreal River	10 47 14	2 29 8	\$1 0 70 39 70 20	1144 1657	12.7 65.1 65.0		21	98. 5 91. 7 95. 0	6 6	35 0 41 0 29 0	10 10 16	35 2 30 0 33 0	2 71 3 31 3 85	- 0 01	0 50 1 13 0 99	14 15 11	17 16 20	1	3 5 6	2
Jpper Ottawa River Rutherglen (Lake Telos) Stonechif (Bockhile	10	15	74 45 75 6		6 F 0	4.7	15	94 D	1 2	35 41 40 9	15	20 0 25 4	5 02	+2 o1 -1 28	0 75 0 72	13	18 22		5	i
Jpper St. Lawrence and Lower Ottawa Rivers Abnostic Bloomfield Hilber Kineston Wontague North Gower Ottawa Rentew	15 15 14 15 15	12 59 13 56 26 26	76 13 77 21 76 29 76 37 75 42 75 42 76 39	290 260 280 280 116	05 7 68 6 67 4 67 4 70 7 68 1 68 1	- 0 0 - 4 - 1 0 - 0 1	1 12 38 3 9 20 23	94 0 92 0 93 2 93 0 96 0 96 0	10 31 3-5 6-7	41 7 44 0 47 1 42 0 40 0 47 0 47 0	31 1 24 1 31 31	20 2 22 1 18 3 25 0 25 0 10 2 27 0	3 47 2 35 1 64 1 88 3 14 3 86 2 28	1 22 1 22	1 27 1 67 1 01 0 79 1 62	7 4 8 5 12 10	24 27 23 26 26 26 19 21		3 1 7 2 3 6 6	
Georgian Bay Counties  Battle Battle Coldwater Coldwaywood Lion Collingwood Lion Hunt-wille Mischand Mar Koldle Orellia Owen Sound Parry Sound Rowelle Shellarine Flybland Flowelle Shellarine Flyblands Flyblands	14 15 11 11 15 16 16 16 16 16 16 16 16 16 16 16 16 16	27 5 5 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	79 11 79 20 79 40 80 2 80 2 79 20 79 5 79 5 79 5 79 5 80 5 80 6 80 6 80 6 80 6 7 79 2 79 2 79 2 79 2 79 2 79 2 79 2 79	\$39 800 600 1274 750 775 507 605 1038	65 3 67 41 67 2 66 1 67 7 68 9 69 11 63 1	- 1 2 - 0 0 - 0 0 - 1 0 - 1 2 - 2 4 - 0 5	37 21 16 15 10 6 5 1 10 5 7 5	00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 5 6 10 6 6 6 6	35 0 41 0 35 0 48 0 36 0 40 0 55 0 40 0 42 0 42 0	1 1 1 1 1 21 1 20 1 20	22 0 26 1 19 8 26 7 27 1 22 8 26 1 22 1 23 7 21 8 29 0	3 04 1 72 2 44 1 13 2 30 1 14 3 05 1 40 2 6 0 91	-0 10 - - - - 1 73	0 55 0 95 1 78 0 53 0 57 0 86 0 43 0 80	9 4 9 9 8 - 3 - 9 8	22 27 22 22 23 28 28 29 22 28		6 4 5 4 1	
Lake Huron Counties Brimain Clinton Clinton Goderich Lucknow North Brime Fount Clark Sar ma Soof hampton	13 13 13 13 11 11 12 11	2 45 45 30 30 30 30 30 30 30 30 30 30 30 30 30	55 57 57 58 41 55 55 44 55 57 54 54 54 54 54 54 54 54 54 54 54 54 54	600 908 595 586 656	68 7 67 1 67 0 65 3 66 3	- 0 2 - 0 5 - 4 4 1 0 - 0 1	27 22 24 24 35	89 1 90 0 87 0 89 9 92 0	7-11 11 6 6	40 0 42 0 46 0 40 1 52 0	31 1-16 1-31 1 15	1 - 9 21 9 18 1 22 9	1 87 3 07 2 23 3 01 0 68 2 16	+1 63 +9 34 +0 48 -2 10	1 64 1 42 1 55 1 25 1 05 1 36	8 10 9 11 2 4	23 21 22 20		5 3 1 2 2	. 1
Lakes St. Clair & Erre, Nagara Peninsula Clarleini Cottom Gottom Gottom Gottom Library Later Cottom Gottom Gottom Cottom Gottom Cottom Gottom Cottom Gottom Cottom William William William William William William William Conft, William Cottom Gottom Cottom Gottom Cottom Gottom Cottom Gottom Cottom Cottom Gottom Cottom Gottom	12 12 12 12 12 12 12 12 12 12 12 12 12 1	24 63 50 55 60 85 85 86 86 86 86 86 86 86 86 86 86 86 86 86	\$2.45 \$2.45 70.86 \$2.86 \$2.86 \$2.17 \$1.17 70.17 \$2.21 \$1.4	595 585 592 635 592 647 292 577 625	70 5 4 70 9 2 8 8 1 70 4 6 8 8 1 70 1 1 70 1 1	$\begin{array}{c} + \frac{1}{2} \frac{5}{1} \\ - \frac{2}{2} \frac{1}{1} \\ - \frac{0}{1} \frac{5}{2} \\ 0 \\ + \frac{0}{2} \frac{2}{1} \\ 0 \\ \end{array}$	255666625-3753	0.000 0.000	5-11 \( \)	48 0 45 0 45 0 45 5 45 8 41 0 46 0 52 0	1 19 18 19 2 1 1 1	22 2 25 1 21 3 6 0 17 6 18 6 17 5 21 8 20 9	3 01 6 76 1 08 3 29 1 94 3 95 1 72 2 83 3 00 1 45 4 08	+1 27 +3 19 -9 09 -1 28 +0 55 -0 27	1 80 3 25 0 35 2 16 1 14 0 47 1 29 0 56 0 72 1 70 0 36	4 8 8 6 9 11 11 3 6 9 7	27 23 23 25 20 20 28 25 22 24		3 3 2 2	

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JULY 1901

\* Stations not furnished with Registering Thermometer-

							ТЕМЕТ	BATUL	ı			F 23	IPITATI	cs.	2				
STATION	Latutude N.	Longitude W.	Elevation above sea level in feet.	Mean.	Difference from	$_{\rm I}$ Yr's Observations	Behast	Dete	Lowest	Date	Mem data range	Amount	Дійетепач Ігоні Аууевіце	Heavest fall in month.	Days with Obstrore	No of furdays	No of auroras	No of thandersterms,	No of fage
ONTARIO-Continued-																			
West-Central Counties	· /	. ,																	
Alton Brantford Guelph London l'aris Stratford Woodstock	43 51 43 10 43 33 42 59 43 12 43 23 43 8	Si 5 Si 21 Si 16 Si 13 Si 25 Si 47	750 750 1050 808 840 1191 980	66 9 67 5 69 9 69 4 67 2	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	24 25 23 3	94 0 85 5 92 5 94 9 88 0	10 9-11 7	46 6 44 6 40 5 42 0 43 0	31 20 1 1	25 2 26 7 24 1 23 1 21 7	2 13 9 25 4 37 2 44 2 90	$^{+0}$ 15 $^{-2}$ 32 $^{+1}$ 93 $^{-0}$ 02 $^{-0}$ 54	0 64 v 19 1 37 0 56 0 90		23 28 21 22 18		1 2	
Lake Ontario Counties																			
Agincourt. Aurora . Hamilton Lorne Park Toronto Is.(Lakeside Home) Uxbridge Wexford .	43 47 43 57 43 16 43 43 43 40 13 40 44 5 45 44	79 16 79 24 79 54 79 13 79 24 79 24 79 6 79 17	590 886 303 350 886 555	69 2 67 2 70 4 69 6 66 8 67 0 65 7	+ 1 5 1 6 + 0 5	16 5 25 71 7 7 1	92 7 92 0 92 0 93 0 93 0 93 0 93 0 93 0 93 0 93 0 93	10 10 6-7 8 6 9-10 10	40 0 45 0 46 0 50 0 41 0 41 0	20 19 1-20 20 1 1-20	20 1 23 2 18 6 20 3 15 0 21 6	2 13 5 00 5 7 1 5 	-0 10 = 0 43 = 0 65 = 0 98 -	1 14 1 14 1 29 0 96 	13 9	25 23 15 22 23		3 7	1
East-Central Counties						21	nt n			1			-1.50						
Bancroft Halburton Kinmount Lakefield Lindsay Madoe Peterboro'. Ursa	45 1 45 1 44 45 44 25 44 20 44 30 44 17 44 54	77 50 78 28 78 38 78 15 75 45 77 29 78 19 7	1050 920 850 872 575 722	65 9 65 6 68 0 68 2 67 5 65 2	$ \begin{array}{c} -1.6 \\ +0.1 \\ +0.5 \\ -2.3 \\ - \end{array} $	25 13 33 42 5	91 0 95 0 90 0 91 6 93 0 91 0 84 0	6 10 6 10 7 7 10 3	38 6 36 9 41 0 40 5 40 0 40 0 59 0	20 1 20 1 20 15	28 2 26 7 23 7 22 9 23 4 21 4	1 70 5 00 3 96 3 97 2 27 3 44 1 85	-1 50 +2 83 +1 41 +0 70	0 90 1 60 0 77 1 25 0 55 1 06 0 95	3 9 9 2 1 2 1 3 3	19 27 27 27 27 27 27 27 27 27 27 27 27 27	1	h	2
QUEREC-																			
Middle St. Lawrence																			
Brome Cap Rouge D'Israeli Montreal. Quebec Ste Anne de Bellevue Shawingan Falls . Sherbrooke .	45 10 46 46 45 55 45 30 46 48 45 27 46 34 45 32	72 36 71 18 71 21 73 35 71 13 73 59 72 43 72 5	678 896 187 296	64 8 	+ 2 0 - 1 6 - 2 2 - 1 0	32 22 38 38 6 10 10	90 0 0 6 4 6 8 6 9 92 92 93 4 8 6 9 93 14 8 6 9	7 8 7 10 6 7 8	39 0 44 0 40 0 52 4 47 5 39 0 30 5	17-21 1 28 23 1 1-25	23 1 22 8 17 9 20 6 20 6 20 9 26 8 21 1	2 80 5 79 1 14 2 35 1 55 2 35 2 35 3 42	-1 43 -1 64 -2 47	0 65 0 47 0 96 1 37 0 63 1 00 0 80 0 75	11 5 9 12 12 8	20 24 26 22 19 22 23 24		5 1 3 5	1
Lower St. Lawrence & Gulf																			
*Anticosti, E. Pt Anticosti, W. Pt Bicquet. Cape Chatte Cape Magdalen Father Point	49 6 49 52 48 25 49 6 49 16 48 31	61 42 64 32 68 53 66 45 65 20 68 19	30 39 - 93 20	53 5 54 7 62 9 55 9 57 4 56 9	+ 5 0 - 4 5 - 2 9 - 1 0	30 30 31 30 35	65 0 65 0 90 0 70 0 75 0 83 0	3-15 	$\begin{array}{c} 45 \ 0 \\ 45 \ 0 \\ 45 \ 0 \\ 45 \ 0 \\ 46 \ 0 \\ 39 \ 6 \\ \end{array}$	5 6 5 5 1	18.0	2 70 4 04 4 05 1 30 4 12 1 93	+0 to +1 65 +0 42 +1 15 +1 09	0 64 0 79 1 10 1 80 1 67 0 84	6 12 12 3 13 15	25 19 19 28 18 13		2	17 12 9 13 6 8
Lake St. John																			
Chicoutini (2) Lake Edward La Tuque Mistrasini Roberval	48 25 47 30 47 27 48 54 48 31	71 5 72 15 72 48 72 15 72 13	150 1333 520 360 352	65 5 63 0 63 9	- 1 '	27 2 3 1	93 0 84 8 97 0 95 0	***	42 1 40 0 8 2 - 37 6	17 17 16 ———————————————————————————————	24 4 24 1 — 24 7	2 53 1 32 2 52 3 62		0 40 1 25 0 79	14 16 10 11	15 21 20		15123	2
The Northwestern Districts																			
Abitabi Manouan Crossing Weymontachingue White Shore Lake	45 33 47 54 45 12	79 22 73 50 75 43		60 3 59 5 56 9 59 3	-3 \	17 1 1	95 0 95 0 93 0	11	3 n 3 n 3 n 5 n	22 24 2 24	22 5 25 2 25 5 27 7	0.38 0.36 2.05 1.97		11 14 1 16 11 45 11 73	3 7 15	2 22 25	1	5	
The North Shore																			
Clarke City	50 10	66 25		58 6			×> 0	`	31 11	1 13	19 1	o 00		11-163	15	[6]			
NEW BRUNSWICK-																			
Chatham Dalhousie Fredericton Moncton Point Lepreaux St. John St. Stephen Susse.	47 3 48 4 15 57 46 9 45 4 45 17 45 11 45 38	65 29 66 22 66 36 64 45 66 28 66 4 67 16 65 38	21 39 164 50 30 70 35 96	66 6 63 0 66 2 64 5 57 4 60 3	- 0 7 - 0 5 - 0 1 - 0 8 + 0 9 - 1 0	-0.2	18 0 94 0 95 8 95 0 70 0 77 5	12 2	42 0 44 0 11 5 22 0 45 0 45 0	1 1 2 1	10 1 11 1 11 0	1 53 1 163 4 85 2 47 4 00 5 19	+ 2 81 - 1 23 - 5 32 - 1 49 - 1 10 - 2 28	1 62 0 18 1 75 1 75 1 12 1 12	12 6 14 18 4 12	10 25 17 21 21 25 19 25		2 1 2	10 10

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMENION OF CANADA, JULY, 1912.

Stations not farmished with Registering Thermometers

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STATION	- James	Langitude	Devation above sea level, is feet	Mesin	Difference from	Yr's Observations	Bullest	Date	Lowest	Date	Memidialy rates	Anoin	Difference from	Bervest fall in month	Days with .01 or more	No of fair days	No. of Auroras	No of thurderstorms	No. of legs
Nova Scome—	,																		
Autgomeh Haldra Kentville New Germann Partsborn Partsborn Partsborn Saible Island, II Pt Sedney Unro Wintsborn Wintsborn Wintsborn Wintsborn Wintsborn Wolfwille Varmouth	45 3 45 23 64 45 39 61 41 58 59 46 10 60	19 22 46 10 18 8 6 20	50 85 40 40 45 25 35 77 20 90	64 1 85 8 65 9 64 9 65 9 65 9	- 1.5	3 1 1 20 20 30 25 10 3 20 20 30 25 10 3	67 0 91 5 88 9 61 0 95 0 95 0	8 10 9 7 7 8 10 9-12 9 10 10	38 0 40 4 58 0 40 0 44 0 50 0 41 0 10 3 48 0 40 0 42 0 45 5	17 1-28 1 1 5	20 4 21 4 21 7 20 9 20 1 17 6 20 0 19 0 18 0 12 7		-2 97 -1 01 +1 50 -1 18 -4 03 -0 04	0 87 0 87 0 51 1 08 1 64 0 70 2 74 2 60	11 4 5 1 5	26 20 22		3 1 1	16 5 9
P E ISLAND																			
Charlettetown Charlettetown Exp. Farm Hamilton	16 14 63 16 14 03 16 25 63	7	38 75	65 6 61 1 61 1	0.0	37 2 15	91 0 20 5 90 0		42 0 39 0 44 0	1	16 4 17 5 14 9	4 53 6 83 7 23	+1 70	1 37 2 18 3 50	1.3 16 9			-	i
Newfound and— Amour Point Burin Cape Norman Fogo Point Reche Port any Basques St. John 8	17 0 55 71 38 55 17 43 54 30 42 57	52 17 25 10	27 30 35 27 125	46 1 45 7 55 2 54 6 54 8	- 4 1 - 4 1 - 4 1 - 4 1	25	70.5	21 24 70 1	28 0 30 0 41 0 39 5 38 0	5 8 9 1 3 1 14	_	3 13 9 28 3 14 4 54 7 72	-0.36	0 51	12 12	25 10 19 19 14 11			18 17 11 11 9
Labrador North West River				50.9		-	72.0	7	30.0	.5	17.5								
Bermeda— Prospect	o2 17 64	46	151										ı						

VI I

RAINFALL

		R.	HNIAL	Ι.			
STATIONS.	Amount in inches	No of Days 01 or over	No. of Late Dece	Heaviert Tall in Mouth	D 11	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e P <sub>L</sub>
BRITISH COLUMBIA—							
Alkah Lake Anns (Canor Point) Armstrong Akanina Beaver I ake Barnere Valley (Lons Ct.)	2.28	11 16	20 15 22	1 03 0 57			
Armstrong	1 -4	15 9		(1)			
Beaver Lake .	0 70 3 32 2 13 1 39	5	2 i 21 24	0.61			
Co-quitlam Denman's Island	2 1 3		21	1 (0) (2) 1 (0)	21		
Ferguson	3.55	7 5 13	29	0 - 2	21 21 1 2 2 3 2 1		
Goldstream Lake Hydraulie Hornhy, Island Indian River Jordan River Jordan River Jordan River Jordan River Jordan River Starbour Sarss Harbour Skidenste Shawngan Lake Weehffle,	3 55 0 50 2 1)	10	33	0 + 2 0 + 24 0 + 55 0 + 75	1.2		
Hornby Island Indian Diver	1.5	3 11	55	0.75	21 20		
Jordan River Jordan River Beat Creek	6.99						
Little Qualicum	1 98	7	23 24 20 27	0 52 0 54 0 48 0 77	28		
Nave Harbour	1 32	4	27	0.77	12		
Skidegate Shawngan Lake	0.75 2.42	6	25	7 25 05	- 1		
ALRERIA -		11	29		.,		
Bardo	1 13	7 8	21	1 20	5		
Bismark Bruederheim	4.59	15	10	1.6	7		
Bittern Lake Brooks	1	15	111		,		
Campsie Caldwell Conjuring Creek	3.8	13	18	0.85	4.5		
Conjuring Creek Dorealee .	5 10 4 07	11 13	15	1 22	1.1		
Conjuring of Peek Dornelee .  Dunstable Five Lakes Grassy Lake Jumping Pound Lacombe .  Lack by	4.00	18	13				
Grassy Luke	9 3	4 14	97 17	0.70 0.10 1.71	11-27	_	
Lacombe	1,		**	1 11			
London	7.73	6	25	4.43	- 8		
Lincham La Pearl	7, 73 7, 71 4, 71	6 5 13	25 23 19	1 20 1 20 1 32	13		
Macleod	3 55 4 41	11	20 10	0.51	21		
Nateby Nanton Okotoks			13	1.15			
Okotok«	6.72 6.63 5.42	18 12 15	19	1 15 1 77 1 20	21		
Pekisko Ponoka Priddis	5 43 5 12 5 59	11	20	1 113	6.8		
Sion Seven Persons		15		1.0%			
Seven Persons Tilley	1.05	4	27	0.45	24		
Tilley SASKATCHEWAN— Aberfeldy	4.54	13	18	0.85	1		
Gull Lake Gull Lake /Uks Swift Cur )	4 54 2 . 4 0 88	5	12 26 17	0.75	1 1 5		
Last Mountain Mordo Crook	3 0- 1 56 0 05	14 12	17	0.25	5 27 6		
Gull Lake Gull Lake (Tks. Swift Cur.) Last Mountain Maple Creek Meadow Lake Yashbara (Kalambura)	0.05	5	19 26	0 15	26		
Willow Cronk   Battle Co.	0.97	7	21	0.31	1.3		
Cartwright	3 (4	12	19	0.65	2.3		
Deforaine . Gretna	2 /8	12	19	1.40			
Norquay (Swan Lake) . Rapid City	4 57 4 50	15 11	16 20	0.79	27 27 5		
Rose Bank Ostano –	4 50 4 73	ii	20	1.67	5		
Deer Park Dutter	1.61	li i	25 24 26	0.93	21		
Emsdale .	4 03 1 68	7 5	26	1.53	H		
Deloratine Gretina Norquay (Swan Luke) Rapid City Rose Bath ONT/RIO — Deer Park Datton Einstale Fort Frances Georgetown, Grantham	2 36 1 27 3 52 2 75 3 14 1 70	7	24 23	1.19	21		
Georgetown, Grand Valley Hillier Indian Chutes (EIK Lake MacCee Sydesham Strathroy	1 27 3 52	11	23 20 25	0 27 1 29 2 11	10 21 21		
Hillier Indian Chutes (Elk Lake	2 75 3 11	13	25 15	2.11	1		
MacCue Sydesham	1.79	5 1	18 26 27 22 21 26 22 24	0.80 7.63 0.85	25		
Strathroy Strathroy Watford Westport Westminster.	2 05 3 24 4 44		22	1.04	21 21 21 21		
Westport Westminster	2 04 3 75	5	26	0 66 1 25 1, 27 1 27 0 58	71		
Westmaster. Wooler	2 16 2 05	9 7	22	1.55			
Wooler Wosley Wattenwyl Wiatton	2 21	12 7	19 24 27	1 27	21		
Wiarton Quenec-	1.58	4	27	0.70	1.		
Lucetne Perkins Wills	2 40 1 89	3	28	1.35	1-		
Quence— Lucetae Perkins Mills Quarze Dam Timiskaming New But Sawer — Point Eventinae Nor 8 Sortis— Big Mushamush Lake (Mahone) Kentyulle Kentyulle	4 15	7 9	24	1.45			
New Bre New CR-	1 01	5	26	0.74	- "		
NOVA SCOTIA-	5 65	8	2.5	2.15			
Big Mushamush Lake (Ma hone)	5 20 5 18	3	25	1 10			
Grahon)	5 1	11	28 20	1 00			
Mushamush Report Mahana	5,3)	3	25	1 4 1			
New Germany South Alton Whate Rock	8 12	12	111	2 41 5 61			
White Rock	4.58	12	19	5.61	1 -1		

#### PRESSURE, HUMHDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE

#### MONTH OF JULY, 1912.

#### a Barometer not reduced to sea level

			Рве	SSURE.	lity.		N N			Dir	ECTIO	ON OF	Wie	ND FR	OM			V s	LOCITY OF WIND	
STATION	Latitude N Longitude W.	Elevation above sea	Mean reduced.	Lowest Range.	Mean relative humidity	nanioun	No of days completely clouded	z	NE	. T.	χ. Ψ.	vi.	. s.	W.	N.W	C.	Total number of observations	Mean miles per hour.	Maximum velocity.	tion from.
Athin Barkerville Kambops  Athin Barkerville Kambops  ANanamo Prince Rupert Friangle Island  aTranquille  Vancouver Victoria	59 05 133 38 53 2 121 33 50 42 120 24 49 10 123 3 54 18 130 18 50 52 129 3 50 41 120 29 49 17 123 3 48 24 123 18	5 4180 9 1245 7 125 8 170 5 680	29 92 30 1 29 93 30 2 29 93 30 30 30 44 30 44 30	30 29 79 0 83 3 29 73 0 60 3 29 67 0 60 47 29 74 0 41 4 29 80 0 63 8 29 87 0 46 28 28 87 0 37 2 28 87 0 37 2 29 84 0 43	75 67 83 78 93 68 75 71	.7	6 7 1 18 3	1 0 1 0 0 2 1 2	0 4 4 0 0 1 1	1 0 12 2 1 0 10 8	12 3 1 1 1 1 3 0 13	30 5. 2 10 0 7 0 13	4 8 3 0 7 10 7 6 21	0 11 15 17 33 6	5 0 9 13 1 30 2 13 0	9 45 14 26 37 2 0 14 15	62 62 62 62 62 62 62 62	9.0 1.7 3.7 5.6 1.6 14.8 	30 0 15 6 0 3 55 0 16	$_{\rm SE}$
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ALBERTA— Banff Calgary Edmonton Medicine Hat	51 10 115 34 51 2 114 4 53 33 113 30 50 1 110 33	4542 2 3389 2 2158 2 2161	29 99 30 29 95 30 29 91 30 3	37 29 71 0 66 89 29 64 0 75 13 29 62 0 81 36 29 55 0 81		7 	7: 10: 3: 2:	2 5 8 1	7	1 1 2	10 6 0	1   4   6   3	20 1 12 28	4 2 5 15	0 32 10 6	27 0 	62 62 62 62			
SASKATCHEWAN— Buttleford Moose Jaw Prince Albert Qu'Appelle Swift Current	52 41 108 26 50 21 105 35 53 10 106 4 50 30 103 45 50 20,107 45	0 1620 6 1759 9 1432 7 2115 6 2439	29 94 30 : 29 89 30 : 29 91 30 : 29 92 30 : 29 97 30 :	10129 64 0 76 33 29 50 0 77 39 29 61 0 68 35 29 59 0 76 11:29 64 0 77	50 86 88 84 79			3 7 2 2 2	5 1 4 4	1 14 2 5 4	15 6 1 5	1 0 1 8 4	12 5 12 11	10 7 4 8 31	15 10 7 19 23	33 32 34 1	93 93 62 62 93	* .		
MANITORA— ("Aweine (8), Alban's) . Minnedosa The Pas Winnipeg	49 42 99 33 50 15 99 50 53 49 101 18 49 53 97 7	11600		36 29 84 0 72 39 29 55 0 84 37 29 55 0 82	81	7   6	6	$\frac{1}{12}$	4 8 6	5 7 1	1 2 7	2 5 b	2 4 7	15 8	10 6 11	35 3 4	62 62 62			
ONTARIO— Cookirane Haileybury Kingston London Parry Sound Port Arthur Port Stanley Southington Stonechti Toronto Woodstock	19 2 81 6 47 29 79 39 441 13 76 29 42 59 81 13 45 26 75 42 45 19 80 6 48 27 89 12 44 30 81 13 44 30 81 21 46 97 8 6 48 37 8 6 48 38 80 47	946 087 285 808 294 635 644 592 557 350 1252	29 98 30 2 29 98 30 3 30 00 30 3 30 64 30 2 29 96 30 3 29 97 30 2 29 97 30 2 30 02 30 3 20 98 30 4 30 00 30 3	36 29 67 0 69 18 29 69 0 69 18 29 69 0 69 19 29 69 0 67 17 29 53 0 74 18 29 65 0 67 18 29 67 0 61 18 29 67 0 62 19 29 68 0 69 19 29 68 0 69 19 29 68 0 69 10 29 68 0 69 10 29 68 0 69 10 29 68 0 69 10 29 68 0 69 10 29 68 0 69 10 29 68 0 69 10 29 68 0 68	74	6 4 6	5 5	11 8 3 1 1 8 3 1 11 10 5	0 1 11 27 1 3 7 0 8 0 7	2 0 0 28 5 12 10 2 13	3 1 4 17 2 2 6 5 2 0 0	11 13 2 0 7 7 3 1 15 0 1 15	15 11 29 17 10 2 6 3 0 2 2 5	6 6 5 9 19 14 7 6 2 10 14 Je	9 12 7 11 7 10 16 5 1 6	10 10 0 5 5 15 6 48 9	62 62 62 62 62 62 62 62 62			NW
(RUBE) — Father Point Montreal Quebec	48 31 68 19 45 30 73 35 46 48 71 13	20 187 296	29,89 30 1 29 95 30 3 29 92 30 1	28 29 49 0 79 17 29 51 0 76 17 29 47 0 80		3 6	14 1 3	4 5	5 11 20	18 1 1	0 3 2	1 3 0	2 23 14	22 5 18	2 11 6	10 0 0	62 62 62			
NEW BRUNSWICK— Chatham Fredericton St. John	47 3 65 29 45 57 66 36 45 17 66 4	164	29 93 30 4	0 20 40 0.81 9 29 49 0.80 7 29 45 0 82	75	6 6 7	7 4 4	3 3	8 7 5	13 4 2	1 16 2	1 3 27	6 16	24 18 1	4, 21 6	0 6 8	62 93 62	7.1	1 . 7 23	
Nova Scotia— Halday Sydney Wolfville Yarmouth	.44 39 63 36 46 10 60 10 45 7 64 26 43 50 66 2	88 35 65	29 .01 30 3 29 .92 30 3 29 64 30 3 29 97 30 3	5 25 32 1 03 5 29 30 1 09 7 29 11 1 26 11 29 53 0 78		.7	17	3; 5; 4; 4.	10 4 11 5	2 6 1 0	5 5 1	4 2 2 0	3 8 2 24	25 20 13 6	8. 4 7 6	2 7 15 7	62 62 60 62			
P E. Island Charlottetown	46 14'63 10	38	29 91 30 1	9 29 29 1 00				5	7	1	1,	10	16	2	1	19	62			
NI WPOUNDIAND Burin Fogo Port any Basques St. John's	17 0 55 10 19 43 54 17 47 35 59 10 47 31 52 42	30	29 93 30 4 29 92 30 3	.0 29 42 0 08 13 29 24 1 09				1 4	13	34 5	11	0  3-	- 0 19	6 15	4	0	62 62			
Bright DV Prospect	32 17 64 46	151				.														

FREQUENCY OF THE WIND FROM THE EIGHT CARDED FOR AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF THE 1912

DIRECTOR OF SD FROM

STATION		2		-		2-		$\equiv$		. ~
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Alberta—										
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HillsdownLoveland.	0.1	14	0.1	- 5			()	513	4	62
Loveland Macleod Pakan (Victoria)	1		,				.>	}		62
Pakan (Victoria) Ranfurly (Waitefield)	6	11	5	1)		_()	10	5	7	62 93
SASKATCHEWAN-	0	1	()	1						
Chaplin Crescent Lake	- 0	i	1		0		.5	20	7	31 31
Estevan Fort Qu'Appelle	3	1	15	5	1		12	1.2	() (i	31 62
Grentell (Brownhill)	1	Ji	l.	12		1.7	2	1.4		61
Indian Head Larchmount (Glenbryan) Moosomin	12	2	3	8		100	17	18	13	513 62
Moosomin	11	15	18	1)	()	1	i)	.3 6	(1	.51
Muenster (St. Peter's Monastery). Onion Lake	12	17			7	.,,	2	ti	U	62
Pense (Gatesgarth)	1	5.	0	16	0		1.1	·)	(E	31
MASTORA—	,	,		_				,	1,	13.1
Berens River Brandon	()	24	į	8		23	9	16	8	93
Hillview	8	20	12	8 3	1	18	b	1.1	0	87
Moose Horn Bay (Aitkensville) Morden	18	5	_'	7	3	8	7	10	Ś	56 60
Oak Bank	8	()	1	2	-		11	7	()	34
Stony Mountain										
Alton	15	2	H	1.4	16		4	141	()	4.3
Alton Beatrice Birnam Clinton	1.3	0	0.5	2	16	+	2	8	45	90
Clinton	17	.5	1	(1	1.5	.5	11	.3 16	- 11	62 62
Cottum Gravenhurst Lindsay North Bruce Ordina Owen Sound Deves Clark	20	()	3	4)	21	-	11	. 1		62
Lindsay										
North Bruce Orallia	h L	01	15	5	20	1	33.3	6.3		93
Owen Sound	20		5	i i	90			1		62
	20 7	4	3	:	th.	Ĭ.	ì	3		31
Port Dover Scarboro Junction Stoney Creek Uplands	i	. 48	3	. 0	()		9	1	( E	54.3
Uplands	(5		2	0	5		18	(1	0	34
Wexford	1	()	1			13	1	ti	1	.51
QUEBEC Abitibi Anticosti, W. Pt. Anticosti, W. Pt. Anticosti, Heath Point Bicquet Brome Cape Chafte Cape Magdalen Cape Rouge Chicoutimi Clarke City Roberval White Shore Lake	18	0	2.16	;	25		29	49		44.5
Anticosti, W. Pt Anticosti, Heath Point	1	q	- 11	3	5	15	1.1		13	91
Bicquet	0	20	()	1	1.1	25	.30	10	1	9.3
Cape Chatte	i	.5		- 0		-	36	13	28 17	0.3
Cape Magdalen	7	1	()	0	21	+	41	16	(1	.31
Chicoutimi	0	1.7	13		10		0.3	S to	()	93
Clarke City	ň		- 1							
THE CHARLE ISANC	8	1	1,1	- ()		;	10	4	()	.3.1
Dalhousie	Ü	+1	1 -	1			Ś	1 ;		31
Moncton	7	3	1.3				24	15		81
Moneton Pt. Lepreaux Sussex	ú	1						1+	18	3.1
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Cap Rouge					1.4		1.5		-1			nl	75	53	44	10		
Quelar			1.	1.	41	7.1	7	7.	7:	7.8			b.t	5.3	36	1.1		
Sherbrook			21	47	38	1-1	70	12	617			6h	67	68	54	31		
Protein ton			1.5	27	4.1	47		55				57	50	:1	12	19		
Charlott Sown			11	27	19	31		6.1	11-1	70,		49	11	42	17	10		

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R model digital and military.	216			210	214	192	5	177		171			111		1.1	165	1 -	17	227	231	214	225	287,	374	513	322	225	213	257	196	181
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Thunder Recorded—

1. Treherne, Almasippe, Morden, Ninga, Minnedos , C. se. (4., ...). (din. Fort Qu'App. ...). Melfort, Lost River.

- 2. Almasippi, Oakbank, Port Dover, Fort Qu'Appelle
- 3. Emsdale, Wesley, Beatrice, Kakabeka Falls, Markhab M.C. Lucknow, Cluton, Haaburton, Peterboro, Bruce Mines, Rutherglen, Winnipez, Gray 1, 485, 1 2 Qal'Appelle
- 4. Emsdale, Georgetown, Indian Chutes, Quinze Dan, Brown, L. Tuque, Shawinigae, Falls, Chicoutimi West, Mistassini, Lake Edward, Agin court, Mentreal River, Madoe, Haliburton, Peterboro, Renfrew, Orillia, Bruce Mines, Wexford, Rutherglen, White Shore Land, Father Point, Toronto, Chatham, N.B., Lindsay, Haileybury, Divide, Schreiber, Greenweed, Fort Vermillion, 2.
- 5. Norquay, Rapid City, Cartwright, Wooler, Georgetown, Wilcred, Wesley, Westminster, Deer Park, Treherne, Almasippi, Toronto, Winniper, Chatham, N.B., Syleyy, Minnedosa, Port Shamley, Lindsay, Aweme, Morden, Shawinigan Falls, Agineour, Hadarter, North Gower, Lucknow, Paris, Madoc, Port Burwell, Clinton, Peterboro, Birnam, Brandon, Medeton, Westport, Aitkensyllie, Frédericton, Wexford, Stouffville, Charlottetown, Ottawa, Divide, Pachorna, Rathmullen, Gull Lake, Rossland.
- 6. Norquay, Almasippi, Morden, Oakbank, Shawinigan, Fal.s. Goderice, Markdale, Lucknow, Haliburton, Birnam, Aitkensville, Antigonish, Southampten, Winnipeg, Gravenhurst, Pambrum, Muenster, Saskatoon.
- 7. Emsdale, Treherne, Almasippi, Oakbank, Chicontimi, Shawinigan Falls, Chicontimi West, Mistassini, Lake Edward, Beatrice, Montreal River, Lucknow, Hallburten, Benee Mines, Point Riche, Rutherglen, White Shore Lake, Winnipeg, Parry Sound, Cochrane, Quebe Gravenhurst, Haileybury, Divide, Chaplin, Pense, Pambrum, Saskatoon, Ursa.
- 8. Norquay, Emsdale, Georgetown, Wesley, Treherm. Almasippi, Awene, Brome, Shawinigan Falls, Chicoutimi West, Parry Sound, Quebec, Lindsay, Gravenhurst, Lak. Edward, Agincourt, Beatrice, Ronville, Montreal River, Markdale, Lucknow, Clinton, Haliburton, Peterboro, Renfrew, Orillia, Wexford, Moncton, Westport, Toronto, Aitkensville, Rutherglen, White Shore Lake, Charlottetown, Winnipeg, Crescent Lake, Chaplin, Muenster, Fort Qu'Appede, Lost River
- 9. Westminster, Point Lepreaux, Hamilton, P. E. L. Sussex, S., awinigan Falls, Hamilton, Ont., Paris, Madoc, Fredericton, Providence Bay, Haliburton, Poterboro, Reafrew, Bruce Mines, Moneton, Westport, Uplands, Antigonish, Rutherglen, Charlottetown, Ottawa, St. John, Kingston, Winnipez, Sydney, Minnedosa, Cochrane, Lindsay, Gravenhurst, Muenster, Fort Qu'Appelle, Ursa.
- 10. Rapid City, Emsdale, Georgetown, Wesley, Westminster, Persons Mills, Hillview, Aweine, Brome, La Tuque, Mistassini, Wexford, Moneton, Airkensville, White Store Lake, Stonecliff, Ottawa, Toronto, Montreal, Quebec, Truro, Lindsay, Gravenlaurst, Scawinigan, Fals, Chicoutini, West, Lake Edward, Agineourt, Paris, Stoney Creek, Montreal River, North Gower, Brantford, Markdale, Port Dover, Almonte, Lucknow, Madoc, Providence Bay, Haliburton, Peterboro, Renfrew, Orillia, Birmana, Crescent Lake, Chaplin, Muenster, Rathmullen, Yellow Grass, Fort Qu'Appelle, Lost River, Ursa.
- 11. Norquay, Rapid City, Cartwright, Hillview, Treherne, Alerespph Aweme, Oakhank, Kentville, Windsor, N.S., Sussex, Hamilton, P.E.L. Clinton, Moneton, Westpar, Point Riche, Fredericton, White Rock, Charlottetown, Ottawa, St. John, Winnipeg. Sydney, Herifax, Minnedosa, Wolfville, Crescent Lake, Chaplin, Muenster, Yellow Grass, Fort Vermalilen, 2.
  - 12. Oakbank, Kakabeka Falls, Brantford, Winnipeg, Yarmouth, Michedosa, Truro, Schreiber
- 13. Rapid City, Emsdale, Hillview, Brome, Beatree, Montreel Wylr, Lucknow, Madoe, Helburton, Peterboro, Renfrew, Lindsay, Westport, Aitkensyille, Uplacels, Rutherglen, White Store Lake, Stonecliffe, Kingston, Port Arthur, Montreal, Quebec, Helburg, Gravenhurst, Muchster, Lost River,
- 14. Cartwright, Hillwiew, Kakabeka Falls, Aitkonsyr'b, Kagsaa, Waaapeg, Port Arthur, Massedosa, Lost River,
- 15. Rapid City, Emsdale, London, Wooler, Georgetove, Lee's J. Wester its ter, Poele's Mills, Hillview, Chicoutimi, Shawinigan Falls, Copper Cliff, Westerd Bloomfeld, Westport, Aitkensville, Uplands, Rutherglen, Stonecliff, Orawa, Kingston, Teest Parry Sound, Port Son

- ley, Chicontimi West, Lake Edward, Agincourt, Muenster, Hamilton, Ont., Montreal River, Montague, North Gower, Brantford, Port Dover, Almonte, Lucknow, Paris, Madoc, Providence Bay, Port Burwell, Clinton, Haliburton, Peterboro, Orillia, Birnam, Bruce Mines.
- Treherne, Oakbank, Moncton, Father Point, St. John, Kingston, Minnedosa, Crescent Lake, Fort Qu'Appelle.
  - 17. Cochrane.
  - Chicontimi, Lucknow, Uplands, Fort Qu'Appelle.
  - 19. Norquay, Cartwright, Treherne, Almasippi, Oakbank, Winnipeg, Crescent Lake, Chaplin.
  - 20. Saskatoon, Rossland.
  - 21. Port Dover, Toronto, Yellow Grass, Rossland, Greenwood.
- 22. Norquay, Cartwright, Treherne, Ninette, Almasippi, Morden, Chaplin, Muenster, Rosthern, Saskatoon, Yellow Grass, Fort Qu'Appelle.
- 23. Norquay, Rapid City, Treherne, Almasippi, Morden, Oakbank, Aitkensville, Winnipeg, Crescent Lake, Muenster, Rathmullen, Saskatoon, Lost River.
  - 24. Toronto, Saskatoon,
- Rapid City, Cartwright, Ninette, Almasippi, Kingston, Rathmullen, Willow Creek, Rossland, Lost River.
- Norquay, Rapid City, Treherne, Almasippi, Morden, Oakbank, Mistassini, Lake Edward, Winnipeg, Ninga, Minnedosa, Quebec, Divide, Muenster.
- 27. Norquay, Rapid City, Cartwright, Treherne, Almasippi, Morden, Midland, Lucknow, Birnam, D'Israeli, Aitkensville, Winnipeg, Minnedosa, Haileybnry, Crescent Lake, Muenster, Saskatoon, Schreiber, Fort Qu'Appelle, Lost River.
- 28 Cartwright, Emsdale, Beatrice, Kakabeka Falls, Montagne, North Gower, Almonte, Lucknow, Haliburton, Renfrew, Birnam, Westport, Uplands, Rutherglen, Stonecliffe, Ottawa, Port Arthur, Minnedosa, Saskatoon.
- 29. Kakabeka Falls, Port Burwell, Peterboro, Orillia, Uplands, Port Arthur, Parry Sound, London, Lindsay, Gravenhurst.
  - 30. Cartwright, Oakbank, Brome, Shawinigan Falls, Westport, Quebec, Fort Vermillion (2).
  - 31. D'Israeli.

# 134 Auroras recorded— 1. 2. Rutherglen. 3. Madoc IV, White Shore Lake III, Haileybury III. 4. 5. 6. S. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24.

25.

27. 28. 29. 30. 31.

26. Aitkensville IV.

#### FORECASTS FOR JULY 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1307. These were divided as follows:—

			No		VERIF	ED.	
	District,		Issued.	No. Fully.	No. Partly	No.	Per- centage.
Alberta .			 50	57	14	9	80.0
Saskatchewan .			79	63	10	6	86 1
Manitoba .			78	62	12	. 4	87 2
Lake Superior			106	81	21	4	86 3
Lower Lake Region			126	111	12	3	92.9
Georgian Bay			127	111	15	1	93.3
Ottawa Valley			116	102	9	5	91.8
Upper St. Lawrence			116	103	9	4	92.7
Lower St. Lawrence			120	102	13	5	90.4
Gulf			121	96	14	11	85.1
Maritime Provinces West		š	120	94	16	10	85 0
Maritime Provinces East			118	93	15	10	85.2
Total			1307	1075	160	72	88.4

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, Aug. 27, 1912.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Wrather Achiem

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AURUST, 1312

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#### ONTARIO.

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#### QUEBEC

Temperature conditions were much the same as in Ontario, long periods with consistently subnormal maxima reducing the mean temperature of the month from 3 to 4 below the normal along the St. Lawrence, and 6° below in the Abitibi region.

#### THE MARITIME PROVINCES.

In many districts a temperature of 80, was reached but once during the month or not at all, and at no place on more than two days, while during the last few days of the month maxima were about 60, and minima about 40°. The mean temperature of the month ranged between 2, and 4° lower than normal.

#### PRECIPITATION.

The rainfall was very much heavier than is usual for August over the greater part of the Dominion, the excepted area comprising the Province of Manitoba, the Districts of Rainy River and Thunder Bay, in Ontario, and a few localities in Alberta and British Columbia and on the Atlantic Coast. The accompanying excessive cloudiness appeared to have had a great effect on the temperature of the air, reducing the mean maximum temperature below normal, but also delaying the commencement of night frests in the West.

#### BRITISH COLUMBIA.

The heaviest falls occurred between the 8th and 11th and between the 14th and 18th, but rain fell almost daily during the last week in most districts.

#### ALBERTA.

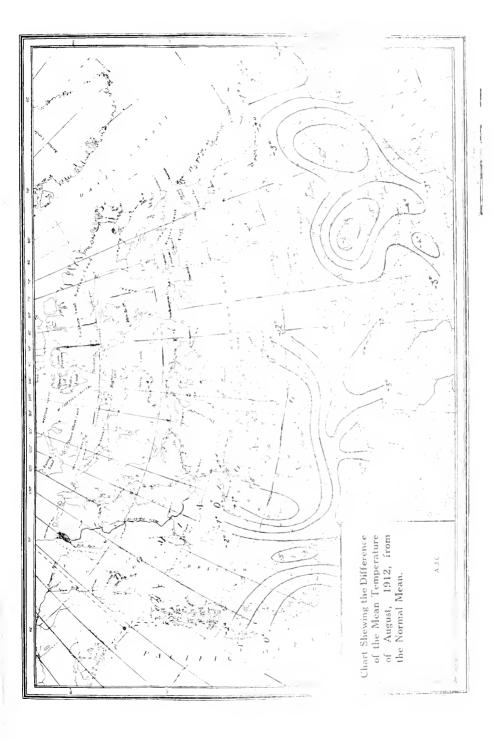
Along the North Saskatchewan and Red Deer Rivers rain fell fifteen days or oftener, the heaviest falls occurring between the 4th and 7th, 14th and 17th. At several points more than one and a half inches fell in twenty-four hours about the 6th or 15th, while the total for the month was nearly twice the normal amount. In the country about the Bow and Belly Rivers conditions were much less pronounced, the total fall barely exceeding the normal in most instances, while there were local deficiencies.

#### SASKATCHEWAY

In this Province rain occurred frequently, some places recording sixteen showery days. The amounts registered were not, however, so large as in Alberta, and although the normal amount had, at the end of the month, been everywhere exceeded, the excess was generally less than thirty per cent, of the normal

#### MAXITOBA.

The distribution of precipitation in this Province during August presented some peculiar features. The frequency of the rainfall while, in the main, greater in the western districts, was very irregular over the whole area, stations in the eastern districts within short distances of each other showing differences of from 5 to 10 in the number of showery days. Thunderstorms were recorded on from 2 to 6 days at several stations on the Red River. The monthly totals were, however, considerably less than normal.



#### ONTARIO.

In the Rainy River and Thunder Bay Districts precipitation conditions were identical with those of Manitoba, rain falling frequently but the total amount not quite equalling the normal. In the remaining portion of Ontario, however, rainfall was largely in excess of normal. The number of showery days ranged, in general, between ten and fifteen days, but at some places in Southern Ontario there were showers on from fifteen to twenty days. There were instances of more than twice the normal rainfall, and the average departure from normal was in excess of 70 per cent. Thunderstorms occurred during the month in all districts, but they were especially prevalent along the Upper St. Lawrence and Lower Ottawa Rivers.

#### QUEBEC.

Rain was recorded on from 12 to 18 days. At Quebec and Cap Rouge the total for the month was ten inches, which is approximately twice the usual August rainfall. Throughout the Province there was a general excess over normal, but there were local exceptions, as at Montreal, where rain was recorded on 15 days, but the aggregate did not exceed the normal. On the 10th and 11th rain fell to a remarkable depth, several places reporting 5 inches in 24 hours.

#### THE MARITIME PROVINCES.

In New Brunswick the number of showery days ranged between 9 and 18, the differences from the normal amount being positive and more than 50 per cent. In Nova Scotia and Prince Edward Island, however, although showers were of frequent occurrence, the aggregates were slightly subnormal.

#### ATMOSPHERIC PRESSURE.

The mean values of the atmospheric pressure at the Telegraph Reporting Stations showed the pressure for August subnormal over the greater part of Canada, Northern Alberta alone giving a value in excess of the average. Negative differences were generally about 0.05 of an inch, and positive departures about 0.01 or 0.02 of an inch.

#### HIGH AREAS.

Four areas of high pressure were sufficiently defined to admit of their paths being charted. They all first appeared in the northwestern portion of the continent, eventually passing over the Great Lakes. They were of the usual feeble summer type of anticyclones.

#### LOW AREAS

Eleven areas of low pressure were sufficiently defined to allow of their tracks being charted. Two first appeared to the northward of the Western Provinces, five in the North Pacific States, one in the Middle Pacific States, one in Lower California, one in Kansas, and one in the vicinity of Lake Eric. The general course of the areas was either over or to the northward of the Great Lakes, thence over Eastern Canada and Newfoundland. They were for the most part of moderate intensity, but at the same time they were attended by widespread rain areas.

140 WINDS, AUGUST, 1912

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## FEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMENION OF CANADA, AUGUST, 1912.

\*Station not furnished with Registering Thermometers

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initisii Cott voit— Alkah Laike Alkah Laike Annis (t anoe Point) Armstrong Beaver Laike Bartiere Valley (Louis Ct.) Coputhan Denman's Island Forgas on Foldetream Like Haydrande Haydrande Lattle Qadieam Monte Creek Nans Harboon Shawman Laike Shawman Laike Wychift	: 46 1 86 1 86 2 57 2 64 2 65 1 66 4 65 2 89 3 62 1 31 3 82 2 12 1 30 3 82 2 39 0 57	13 13 7 14 5 13 13 10 11 10 11 10 11 7	18 23 24 17 26 18 18 27 27 29 20 21 20 21 27 27	0 72 0 38 0 27 0 78 0 60 1 70 1 17 1 07 1 17 1 0 81 0 90 1 15 0 78 0 40 0 78 0 40 0 78 0 40 0 78 0 40 0 78 0 40 0 78 0 40 0 78 0 78 0 78 0 78 0 78 0 78 0 78 0 7	8 15 30 15 11 15 16 10 16 16 16 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18					
IBERTV— Harblo Harblo Besmarchau Retrern Lake Bernoks Campsue Culdwell Dornelee Donstalne Grass Lake Intipous Found Lord Shot Lord Shot Lord Shot Lord Marcroft Marcroft Natteby Nation Okotoks Dekrisko Pekrisko Pekrisko Seven Persons Filley	2 58 4 47 6 54 2 65 2 65 2 58 2 58 2 58 2 58 2 58 2 58 2 58 2 5	9 10 16 10 12 2 9 9 14 4 11 6 3 11 3 6	22 21 15 21 19 25 22 127 20 25 25 25 26 25 26 25 26 27 27 28 28 27 28 28 28 29 29 20 21 21 21 21 21 21 21 21 21 21 21 21 21	0 50 0 95 1 12 0 14 0 18 9 77 0 70 1 34 1 28 1 60 0 70 0 70 0 70 0 70 0 70 0 70 0 70 0	27 26 27 166 27 4 4 25 4 27 11 6 3 4 4 16 16 3 3 4	 	1		20	
askateneway — Aberfeldy Gull Lake Gull Lake «Fka Swift Cur + Last Mountain Wanle Creek Willow Creek (Buttle Cr )	2 3 h 2 00 3 53 3 17 1 55 1 84	5 9 11 11 8	25 25 22 20 29 23	1 02 0 60 0 83 1 56 1 25 0 7	26 27 27 16					
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PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF HILL 1. ST. CLASS 10 80  $\sigma_{\rm C}$  (H) MONTH OF AUGUST, 2012

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# MLAN "populate" of BRIGHT SUNSHINL REGISTERED IN LACH HOUR OF THE DAY IN THE MONTH OF AUGUST DEF

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	Victoria	Salmon Arm	Nanamie	Vancouver.	Agassiz.	Tranquille.	Summerland	Kandoops.	Edmonton	Lethindge.	Lacombe.	Medicine Hat.	Fort Dunvegan	Fort Vermilion	Battleford.	Indian Head	Moose Jaw	Scott	Rosthern	Branden	Winnipeg	Harleybary	Woudstock.	Lindsay.	Вагие.	Toronto.	Kingston	Ottawa.	Montreal.	Cap Rouge.	Quebec.	Sherbrooke.	Fredericton.	Charlottetown.	Nappan
gistered duration n hours	193	193		180	151	173	202	220	201	240	190	206	164		215	131	192	193	150	118	161	1.2	133	135	134	171	152	179	191	138	134	153	160	151	177
reeninge of pos- able duration "	4.3	13		11	34	30	15	49	41	54	<b>4</b> 2	46-	35		47	29	43	43	42	27	36	21	31	31	31	40	35	41	48	32	31	35	36	35	41
ifforence from av erage C	11			-	-11						_	_	-		_ q	-20	_			-30	-24	_	24	23	-31	20	21	—11·	10	-	_	-	-14	-	_
iximini percent- ige in one day '.	80	81		55	80	81	. 5	47	N3	93	86	87	81		50	70	86	83	86	68	79	89	50,	81	भा	55	86	79	93	77	71	84	70	90	\$5
ate of maximum	20	22		12	21	6	1.5	5	21.	22	14	22	21		19	9	2.2	1	7	30	4	36.	16	30	27	29	16	13	13	20	20	17	29	29	20
umber of days completely cloud ed	4	5						6	2	1	5		6		4	3	3	3	ь	4		5	5	6	.;	4	;	1	3	4	3	7	4	7	2

53 | 34

03

Charlottetown Nappan FREQUENCY OF THE WIND FROM THE EIGHT CARDITAL POLITS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF AUGUST, 1912

				DIRI	E <u>CT</u> IO	/ 0]	<u> 7</u> (1)	ND F	RO VI		
STATION		z	N E	<u>ei</u>	$\frac{\chi}{\varpi}$	X.	X.	=	N.W.	ij	0000
ALBERTA -			- 								
Athabasca Landing Didsbury Endaing		2	.3	1 2	5	i la	1	15	3 8	()	31
Fort Resolution		5 1	5	- 2	3	5		.5 29	1	16	58
Hallark (Emsburg) Hillsdown		.5 U	5	5 0	15	2	1.2	9	.9 .38	()	62 62
Loveland		2	8 0	Š	10	2	7	9	8	1.1	h2
Pakan (Victoria)		1	8	9		2	19	1.4	5	24	62 62
Ston		5	1 2	12	10	la Lj	7	30 27	S 10	11	5.7
SASKATCHEWAN		0	ā	()	12	- (1	0		1.4		al
Chaplin		2	2	.3	7	1		5	-2	1 5	34
Estevan		3	3	1	14		l L	3.0	4 8	10	31
Indian Head		7	3 2	8	15	12	1	17 12	1.1	8 0	93 62
Moosomin		0	10	12	7	6	18	0	27	0	31 62
Muenster (St. Peter's Mona Onion Lake	stery)	.,					10				_
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Hillytew	c)	()	ı	29	34	4	-		-1		
Morden		10	1.3	2 2	12	S 3			7	16	62 31
Stony Mountain											
Ontario Agincourt		2	2	1.3	12	1.1	2+	(5 40)	22	1.0	93
		8	1	12	8	18	4	2	11	5.5	51,5
Birnani		7	13	8	16 1	5.5	2 8	4 5	27	.3	62 62
Cottam		15 10	0	7	3	23	5	to Ho	10	19	62
Gravenhurst Lindsay		11	G)	i	8	10	11	3	16 18	21	93
North Bruce Orillia		3	0	7	1 2	31	10	20	18	i)	31
Owen Sound		16	. 4	3	7	L)	1	15			h2
Port Dover		7	2	5	2	2	.3	4	la.		31
Stoney Creek			ч	28	.3	2	25	19	5.0	0.	93
Uplands		10	()	4	01	5	i	12	45	16	30
QUEBEC-		17	ь		L)	1.3		24	10		9.3
Anticosti, W. Pt.		10	5	i	1.3	11 2	3.10	10	22	15	93 93
Anticosti, Heath Point		6	7 24	()	0	1	[+]	46 11	0 3	3	9.3
Brome		18	3	12	0	18	8	47	0	2+	41,5
Cape Magdalen		6	- H	0	5 7	18	2.6	7 ()	34 25	21 36	93 93
New Brunswick -				s	1	0	()	16	1	5	31
Dalhousie		0	2	0	15	11	4)	12	15	2	31 51
Pt. Lepreaus Sussex		5.0	6	10	3.0	7	10	12	1	16	31
Nova Scotla-		1		0	9		-	]()	()	1)	23
Port Hastings		i	2	0	8	5		()	11	()	31
Sable Island, E. Pt		. 0	()		,		11	- 41		(1	113
			()	-,	2					**	
		2	(1		1.1		16	5			31

#### Thunder recorded

- Georgetown, Wooler, Emsdale, Port Dover, Almasippi, Haliburton, Providence Bay, Aurora, Birnam, Agincourt, Stoney Creek, Ferguson, Rossland, Nakusp. Nelson, Grand Forks, Chileotin, Peace River Landing.
- Westport, Perkin's Mills, Cottam, Haliburton, Providence Bay, Birmani, Madoc, Lucknow, Brantford, Point Clark, Ottawa, Stonecliff, Port Stanley, Mantreal, Creston, Chileotin.
- Westport, Kentville, Clinton, Brome, Annis, Summerland, Salmon Arm, Grand Forks, Chilcotin, Sion, Hillsdown.
- Peterboro', Brome, Agineourt, Beatrice, Parry Sound, Kingston, Gull Lake, Rathmullen, Jumping Pound, Pekisto, Sion, Campsic, Fort George, Fort Resolution.
- 5. Rapid City, Chaomtini West, Brome, Chicontina, Fredericton, Kingston, Saskatoon, Rathmullen, Pambrun, Chatham, N.B., Jumping Pound, Halkirk, Hillsdown, Waitefield, Alton.
- 6. Cartweight, Rapid City, White Rock, Morden, Almasippi, Sussex, Treherne, Mistassini, Brome, Minnedosa, Montreal, Chatham, N.B., St. John.
- White Rock, Aweme, Morden, Almasippi, Techerne, Lucknow, Bruce Mines, Point Clark, Minnedosa, Port Stanley, Southampton, Charlottetown.
- 8 Madoc, Agmeourt, Toronto, Kingston, Stonechift, Pert Stanley, Montreal, Hydraulic, Annis, Aikali Lake, Little Quatieum, Rossland, Fort George, Pemberton Hafebery, Keremeos, Sammerland, Salmon Arm, Quesnel, Princeton, Okanagon Mission, North Niconach, Nicola, Hedley, Chilliwack, Crawford Bay, Chileotia, Alberni, Alton, Hope.
- Port Dover, Providence Bay, Brantford, Bruce Mines, Peterbero', Agineourt, Fort Qu'Appelle, Southampton, Hydraulie, Campsie, Chilliwack, Helkirk, Pakan, Hillsdown, Maeleod, Lumnford.
- Deer Park, Georgetown, Emsdale, Haliburton, Lacknow, Bruce Mines, Hillier, Beatrice, Toronto, St. Walburg, Fort - Qu'Appelle, Campsie, Chaplur, Uplands, Hydraulie, Dunstable, Bismark, Keremeos, Salmon Arm, Okanagan Mission, Dayslam', Hillsdown, Lunnford, Waitefield, Alton, Crescent Lake, Uplands.
- 11. Cartwright, Georgetown, Strathroy, Emsdale, D'Israeli, Awene, Almonte, Lake Edward, Almasippi, Orillia, Haliburton, Bloomtield, Paris, Sion, Macleod, Lumnferd, Waitefield, Madoc, Treherne, Mastassini, Chicontimi West, Montreal River, Mentague, Peterbero', Hillier, Brome, Chicontimi, Agincourt, Aitkensville, Ottawa, Kingston, Stonecliff, Gull Lake, Saskatoon, Muenster, Chaplin, Port Stanley, Montreal, Quebec, Elko, Salmon Arm, Okanagan Mission, Alton, Crescent Lake, Rutherglen.
- 12. White Rock, Almasippi, Oakbank, Mistassini, Brome, Artkensville, Ottawa, Kingston, Minuedosa, Kindersley, Quebec, Manonau Crossing.
- 13. White Rock, Pointe Riche, Port Hastings, Almasippi, Lucknow, Point Lepreaux, Cochrane, Southampton, St. John, Harrington Harbour, Charlottetown, Halkirk, Moneton, Rutherglen, Manouan Crossing.
- Georgetown, White Rock, D'Israeli, New Germany, Haliburton, Mistassini, Chicoutimi West, Shawinigan Falls, Brome, Chicoutimi, Beatrice, Fredericton, Stonecliff, Montreal, Quebec, Sydney, Moneton, Manonan Crossing.
- White Rock, Sussex, Kentville, Windsor, N.S., Fredericton, Pambrum, Chatham, N.B., St. John, Yarmouth, Okotoks, Charlottetown, Annis Mayeroft, Wilmer, Elko, Salmon Arm, Okanagan Mission, Nelson, Enderby, Bella Coola, Macleod, Waitefield, Peace River Landing.
  - 16. Saskatoon, Mucuster.
  - 17. Birnam, Charlottetown, Dunstable, Oven.
  - 18 Port Stanley, Hydraulie, Dunstable, Perderton Hatchery,
  - 19. Treherne, Port Stanley, Hydraulie, Pemberton Hatchery.
  - 20. Kakabeka Falls, Lucknow, Polit Clark,

- 2I. Westport, Georgetown, Port Dover, Biomafield, Madoc, Para, Luc. Agin T. T.
- 22. Deer Park, Westport, Georgetown, Almorte, Lake Edward, Port Daver, Online Anne Birnam, Madoe, Chicoutimi West, Cliuton, Lucknew Bramtford, Aglusant, Beatrice, Terrest M. fort, Fort Qu'Appelle, Montreal, Yermouth, Campsie, Sien, Pakar, Fort R. scutien, Harathe, One
- 23. Westport, Wiarton, Georgetown, Perkins Mil's, Sussex, Windows S., Communication, Property Representation, Ortawa, Rathmallien, Losi River, Pambrupe, Computer St., Jak. (H. J.) of Halkirk, Oyen, Alix, Hillsdown, Ursa.
- 24. Westport, Wesley, Georgetown, Emsda'e, Wattenwy, Amonto Halberton, Probable Bell Renfrew, Madee, Montreal River, Clinton, Montague, Lucknow, Bruce Mines, Peterboro, Halber Peut, Clark, Agincourt, Bentrice, Parry Sound, Toronto, Kingsten, Kindersley, Rathmullen, Pense, Fort Qu'Appelle, Chaplin, Southampton, Uplands, Chileotin, Alton, Uplands
- 25. Westport, Georgetown, Emsdale, Elk Lake, Perkins Mills, Poet Pever, Orillia, Harburton Birmam, Clinton, Paris, Brantford, Brome, Macatreal, Point Clark, Stony Creek, Parry Sound, Ottawa, Kingston, Stoneeliff, Minnedosa, Port Arthur, Kindersbey, Port Stanley, Ross and, Alton, Ursa, Ratherslein.
- 26. Deer Park, Westport, Georgetown, Strathroy, Wooder, Watte wyo, E'k Lake, Perkins Mills Lake Edward, Port Dover, Orillia, Haliburton, Autora, Paris, Waitefield, Birnam, Renfrew, Madee, Kakabeka Falls, Mistassini, Montreal River, Clinton, Montague, Lucknov, Brantford, Peterboro, Bi lier, Agincourt, Stony Creek, Beatrice, Parry Sound, Toranto, Ottawa, Kagston, Stonechiff, Port Stanley, Montreal, Halkirk, Daysland, Sion, Hillsdown, Alton, Ursa
- 27. White Rock, Almasippi, Kentville, Windsor, N.S., Shawmar, n.Fa.ls, Point Lepreaux, Fredericton, Obchrane, Saskatoon, Elko, Muenster, Lost River, Pambrum, St. John, Charlottetovn, La Pear', Jumping Pound, Campsie, Chilcotin, Alberni, Alix, Hillsdown, Waitefield
- 28. Aweine, M. ssett, Saskatoon, Pambrum, Fort Qu'Appelle, Chaplin, Quebec, Hydraulie, Annis, Okotoks, Rossland, Creston, Wilmer, Salt Spring Island, Garry Point, Salmon Arm, New Westmin ster, Grand Forks, Chilcotin, Alberni.
- 29. Cartwright, Rapid City, Morden, Almasippi, Saskatoon, Lost River, Shawinigan Lake, Nakusp, Elko, Quesnel, Sion, Alix, Crescent Lake
  - 30. Saskatoon, Hydraulic, Hillsdown,
- 3I. Georgetown, Goderich, Birnam, Clinton, Paris, Lucknow, Brantford Bruce Mines, Stony Creek, Saskatoon, Port Stanley, Hydraulic, North Nicomen, Grand Forks, Chilliwack, Alberni, Hamilton, Ont.

## Auroras recorded:-

- 1.
- 2.
- 3.
- 4.
- 5. Agmcourt III, Schreiber IV.
- 6. Agincourt II.
- 7. Sion IV.
- 8. Schreiber IV.
- 9.
- 10. Deloraine.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16. White Shore Lake III.
- 17. Peace River Crossing.
- 18.
- 19.
- 20. Sion IV, Waitefield III.
- 21. Aitkensville IV.
- 22.
- 23.
- 24. Fredericton II.

#### FORECASTS FOR AUGUST 1912

The forecasts issued by this office at 11 p.m. each night are posted up at  $\times$  0.2 telegraph stat on in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1272. These were divided as follows:

				\ Finn		
	DISTRICT.	Issue 1	1 i.		5.7 5.3	Lir
Alberta			-			
Saskatchewan						51.1
Manitoba	444	-2				
Lake Superior						
Lower Lake Region				15		
Georgian Bay .					7	
Ottawa Valley				1-	÷.	
Upper St. Lawrence				11		1
Lower St. Lawrence				18	-	
Gulf		114		- 1		* 5 1
Maritime Provinces West		11*		2		
Maritime Provinces Last				17		85.0
Total		1.7.	11.	1.4		47.2

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STFPART, Director

Meteorological Office, Toronto,

Sept. 27, 1912.

# DEPARTMENT OF MARINE AND FISHERIES, CANADA. METEOROLOGICAL SERVICE

# Monthly Weather Review

VOL. XXXVL

SEPTEMBER, 1912

No 9

#### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE.

#### BRITISH COLUMBIA

The mean temperature on South Vancouver Island was 56, less than 1 above average, and on North Vancouver Island 55. The highest temperature of the month was about 78 and occurred between the 13th and 15th. At the majority of the stations the lowest recorded was about 40.

Along the Lower Fraser River the mean was about 56, or practically average. Between the 11th and 17th, 80° was exceeded at most places, while between the 23rd and 27th minima of about 35 occurred at places at some distance from the coast.

Along the Upper Fraser the mean was 49, extreme maxima ranging between 70 and 78. Frost occurred between the 19th and 28th, Fort George reporting a minimum of 21.

Of the districts in the Southern Interior the Okanagan and Thompson River Valleys showed the highest mean temperature, 54°, while that of West Kootenay was 51°, of East Kootenay 48°, and of the stations on the North Branch of the Columbia, 48°, all about 3° lower than average. At most places in the Okanagan Valley 80° was exceeded at least once during the month, but in the other districts 80° was not generally recorded. Several places reported 2° to 5° of frost between the 24th and 29th.

#### ALBERTA.

The mean temperature was 46° except along the Bow River where it was 18°. In the latter district the difference from average was about 4° below. The highest temperatures of the month were registered in the Athabasca River district, on the 11th, 80° and 81°. The highest temperature of the southern districts was 78°, recorded at Calgary on the same date. From the 24th to the 28th there were severe night-frosts, and although the lowest in most cases was 20°, yet there were a few instances of greater severity, as at Brooks, in the Bow River district, which reported a minimum of 12° on the 29th.

#### SASKATCHEWAN.

Mean temperatures were about 4 or 5′ below average. Along the Qu'Appelle River, the Forks and the North Branch of the Saskatchewan River, the mean temperature was 47′, but along the South Branch of the Saskatchewan River the mean temperature was but 45°. The highest temperature of the mouth occurred between the 10th and 12th and ranged between 75° and 78″. From 10° to 20° of frost were recorded on the 27th, 28th and 29th in all districts and locally on the 15th, 16th and 23rd.

#### MANITOBA

Mean temperatures along the Qu'Appelle and the Assiniboine Rivers were about 50°, or 3° less than average, while along the Red River the mean was 52°, or about 1° below average. The highest temperatures occurred on the 3rd, 4th, 6th, 11th and 12th and along the Red River ranged from 80° to 86°. In Western Manitoba frost was in general more severe than in Eastern Manitoba.

#### ONTARIO.

In the Rainy River District the mean temperature was lower than average, but over the remainder of Ontario temperatures were in nearly all instances higher than average. In Algoma and Nipissing the mean was 56 or 2° higher than average. In the Georgian Bay counties and the East Central counties the mean was 50° or about 1° above average. In the West Central counties and those bordering on Lakes St Clair, Erie and Ontario the mean temperature was about 63° or from 2° to 3° above average. The highest temperatures recorded in some cases reached 95° and occurred about the 6th and 10th. No heavy frosts occurred during the month.

#### QUEBEC.

Along the middle St. Lawrence the mean was 55° or about 1° below average; along the lower St. Lawrence 49° or about 3° below average, while in the Northern Districts the mean was 52°. 75° was not generally exceeded during the month, while except in the extreme northern districts there was no heavy frost.

#### MARITIME PROVINCES.

The mean temperature of the month was 54°, which is from 2° to 3° below average. The highest temperature recorded in these provinces was 79° at St. Stephen, N.B., on the Sth, and the lowest 28° at Kentville, N.S., on the 29th.

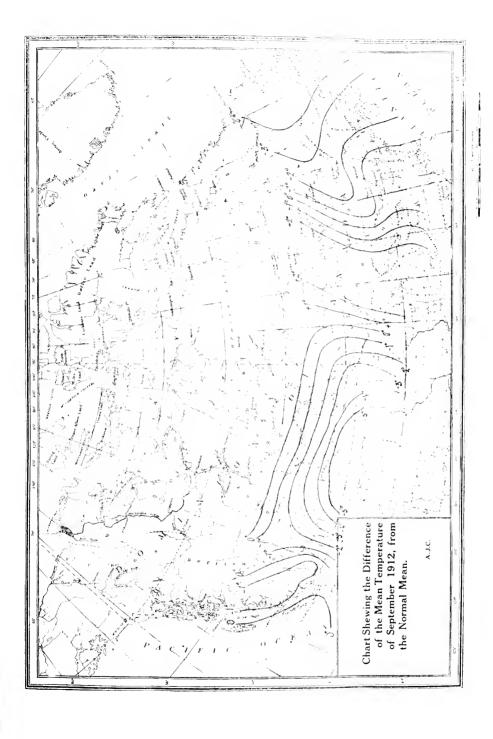
#### PRECIPITATION.

#### BRITISH COLUMBIA

On South Vancouver Island the rainfall was two and a half inches or one inch less than average, while on North Vancouver Island the total was 5 inches. Along the lower Fraser the fall was 2 inches, or one and a half inches less than average, while along the upper Fraser River the amount recorded was about one inch, or two inches less than average. In the districts of the southern interior rain fell on an average of five days totalling about 1 inch or less than half an inch below normal.

#### THE WESTERN PROVINCES.

In Alberta along the North Saskatchewan River rain fell on 7 days and totalled one inch; along the Red Deer River on 9 days and amounted to an inch and a half; along the Bow River on 8 days amounting to 2 inches, while in the Athabasca and Peace River districts rain was recorded on from two to five days amounting to about half an inch.



In the Province of Saskatchewan the normal rainfall was executed by about 30%. The rainfall along the Qu'Appelle averaged a little more than 2 inches in depth as also along the North Saskatchewan River, while about the Forks of the Saskatchewan and the Lower Saskatchewan the rain fell on 11 days and totalled between two and three quarters and four inches.

In Manitaba the rainfall was very heavy, occurring on 10 days and averaging between 4 and 6 inches or from 2 to 4 inches more than normal. In several cases between 2 and 3 inches were registered in 24 hours.

#### ONTARIO.

Lecally in the Ceorgian Bay counties there was a small deficiency, but over the remainder of the province the normal rainfall was exceeded by about 2 inches. The greatest amount recorded, at Lucknow in Huron County, was 8 inches or, 5 inches more than the normal for that place.

#### QUEBEC.

In south-western Quebec conditions were much the same as in Ontario, an excess of between 3 and 4 inches having been recorded, but in Eastern Quebec there was a deficiency amounting to about one and a half inches.

#### MARITIME PROVINCES.

Rain fell on 7 days and averaged two and three-quarter inches over the whole area of these provinces. This is equivalent to half an inch less than normal.

#### ATMOSPHERIC PRESSURE.

The results obtained at the telegraphic reporting stations indicate that the mean atmospheric pressure for September exceeded the normal throughout Canada except over Southern Ontario, where the values were subnormal. In the Western Provinces the excess was generally about 0.07 of an inch, and in Quebec and the Maritime Provinces about 0.03 of an inch. Negative departures in Ontario were about 0.02 of an inch.

#### HIGH AREAS

As many as nine areas of high pressure were charted for the month. Five first appeared in the northern partion of British Columbia, three on the United States Pacific States Coasts and one passed into Eastern Quebec and the Maritime Provinces from Labrador. Five areas travelled over the Great Lakes, two to the southward, while one lost its identity after reaching Kansas. The systems were for the most part quite feeble.

#### LOW AREAS.

Nine areas of low pressure were charted. Six first appeared over the northwestern portion of the continent; one in the upper Mississippi Valley and two in the Gulf of Mexico. The general track of the areas was over or in close proximity to the Great Lakes, thence over or to the northward of the Maritime Provinces. The systems were usually very widespread and of little energy, but attended by a large amount of cloudy and showery weather.

#### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43/8 N., Long. 80/4; Wilcom'S pt/5th, 1915

Instrument—Dines Metcoregraph. Beginning of Ascent I a.m. G.M.F.

Barometer—738 mm. Temperature—23 C.

Direction of Flight at Beginning Northwest.

Mariniya Height 11 4 km. Mariniya Height 11 4 km. Mariniya Tengenat re 67 C

Height in km. above S.L.	Pressure in iniii.	Tongerature in Co	ntigrade degrees
G.L. 3	7.8	23	
. ŏ	7.20	23 0	21.5
75	7(90)	23 1	20.0
1 0	679	22.0	21.0
1.5	640	19 0	18.0
2 0	<b>6</b> 10 €	∤n ⊢	15.0
2.5	507	13.0	12 -
3 0	5.32	9.7	8 0
3.1	525	8.1	7 11
3.5	501	7.5	5.11
3.8	485	8.0	5.0
4 0	471	<b>b</b> 0	4.5
1.5	44.3	2.5	1.0
5 0	416	1.0	2.0
55	390	1.5	5.5
0.0	3196	8.5	10.0
6.5	313	12.	5
7 ()	21	1.4	ñ
7 5	.300	17 m	18 0
8 0	280	20.5	23 0
8 5	262	21.0	20.01
9 0	24.3	28 0	30 5
9.5	227	£2.5	34.5
10.0	212	36 5	38 0
11.0	181	45.00	46 - 1
12.0	15.5	51.5	55.5
13 0	132	(-1	0
13.3	127	61	ο
13 6	(20)	65.0	63-0
14.0	412	(315)	n.
14-4	10.5	67	i)

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## WINDS, SEPTEMBER, 1912

PROVINCES AND STAT	lons	Total Mileage	Greatest Mileage in 24 hours	Greatest Mileage in one hour	Number of days of Gales.	Number of days of Strong Winds	Number of days of Fresh Winds.	GENERAL Direction,
British Curt maa								
Victoria Point Garry		1881 5.86	25.2 46.4	23 32	1	1 5	12 13	NL & N NW
AIBLETY								
Edmonton Calgary		3144 3.86	258 3.48	19 27		1	4 5	NW.
SASKATOREWAS								
Battleford . Qu'Appelle		5325 6983	600 452	13 33	2	4 8	ī 8	NW.
MANITOBA								
The Pas Winnipeg		5762 7546	419 466	23	2	5	* 11	N & SW N
ONTARIO								
Port Arthur Purry Sound Southermpton Woodstock Guelph . Toronto		6487 413 5928 2370 4692 6881	342 325 351 181 432 613	26 21 20 14		5 1 1	9 5 13 1	NW W SW, W 1
. Оттыс								
Quebec Father Point Anticosti S W Pt		7973 5990 87 <b>8</b> 0	289 405 734	40 31 41	2 1 3	13 8 17	9 8 4	NE. W NW
MARITIME PROVINCES								
Pt Escuminac Fredericton St John Pt Lepreaux Haldax Flat Forst Charlottetown		9493 3797 1939 6726 7098 10473 3321	571 259 342 458 415 702 220	39 17 25 22 29 54 15	1 3 4	3 10 12 16	9 10 9 9 7	NW. NW. SW. W. NE. N. & NE.

\*Stations not furnished with Hegistering Therm of con-

	1			_				Тем	PERATE R	E.			Pio	ECHITALI	20	4				
STATION		Latitude N.	Longitude W.	Elevation above sea 	Mean	Difference from	At's Observations	Highwet	Pate	Lowert	Dir	M. C. A. C. C. 200	Am - tirra	Officense from	Bearing All in	Investigation	A coffactolists	No of a strings	No of thunderstorms	No of fogs.
BRITISH COLUMBIA—																				-
S. Vaucourer Island																				
Alberni (Beaver Croek) Clayoquot Closse Cowichan (Tzoahalem) Namaimo Namaimo Namosee Bay Salt Spring Island Sioke Victoria	49 49 48 49 41 45 45 45	25 10	124 49 125 55 123 42 123 37 124 12 123 20 123 44 123 19	300 27 170 125 130 25 85	59 1 57 0 56 9 55 5 54 8 55 2 55 7	+ 1 3 + 1 4 - 2 0 - 2 0 + 6 6	15 13 1 1 12 12 1 2	80 0 77 0 78 0 74 0 77 3 78 0 76 0	13 15 13 13 13 15 15	35 0 42 0 43 0 36 5 44 0 40 0 17 0	P 17 21 24 1 24 24	76. 3 11. 1 26. 4 25. 2 18. 1 21. 1 47. 5 15. 6	2 06 4 73 5 5 1 1 56 2 63 1 23 1 52 1 52	- 0 80 - 2 53 0 03	9 60 2 46 2 71 0 91 0 10 1 41 1 4					
A. Vancourer Island																				
Holberg Swanson Bay Triangle Island Winter Harbour (Quatsino)	50 50 50 50	37	128 18 126 53 129 5 127 10	680	56 3 54 5 53 1 53 4	- 0.1	1 15	80 0 75 0 68 0 75 0	15 13 14 15 15	44 4 11 0 46 0 39 0	27 27 28 20 27	15 II II :1 IS 4	7 51 1 26 1 22	2.15	0 77 1 10 1 91 1 51	12 11 12 10	18 19 18 20			
Lower Fraser River	4.0		121 31	52																
Agase z Chiliwack Hope Ladner New Westminster North Nicomen Pemberton Hatchery Ruskin (Stave Falls) Steveston (Garty Point) Vancouver	49 49 49 49 49 49 50 19 49	14 10 23 05 13 12 20 16 21 17	121 31 121 57 121 25 123 4 122 54 122 2 122 33 122 23 123 17 123 5	21 500 330 59 125	56 4 56 7 56 0 54 1 57 5 57 7 54 7 56 8 53 5	+ 1 9 - 0 1 - 0 4 - 0 3 + 0 5 - 0 3 + 0 5	10 3 11 25 20 3 17 12	81 0 84 0 81 0 80 0 84 0 84 0 80 0 72 5 76 0	14-17 13 13 14 11-14 13-14 13 12 13 14	3   0 31   0 32   5 33   0 41   8 40   0 35   0 35   0 42   9	3 19 24 25 24 25 4	30 2 23 0 21 7 22 7 10 3 20 5 25 4 20 3 17 5 16 9	2 50 1 23 0 70 1 85 2 14 1 43 1 20 1 87 2 19 2 19 2 19 2 19	2 03 -1 01 -0 64 1 37 - 3 30 - 	9 50 9 50 0 74 0 65 0 94 0 41 1 02 0 73 1 51	8 5 5 1 1 1 3 4 1 3 6 8			1	ŧ
Upper Fraser Ricer				1																
Babine Lake Barkervillo Chileotin (Big Creek) Fort George Fort St. James (Stuarts	55 53 51	38 02 40	126 26 121 35 123 0	4180 3100	47 9 43 9 46 6 49 3	5 5	3 23 9 1	75 0 66 0 71 0 77 0	13 16 11 14 4 11	29 B 26 P 23 P 21 B	19 20 23-28 28 28	21 6 19 1 27 3 29 4	1 60 1 14 1 25 0 55	2.52	0 70 0 23 5 58 6 21	3 7 6	27 21 24 21			1
Lake) Hydraulic ,	54	25		2280	51.9		1	70 6	11-13	310		915	0.11		0.25	5	.15 25			
Quesnelle Okanayan Valley	52	59	122 30	1700	52.0	0.1	17	78 ()	1.	28.0	22.23	27 3	0.10	- 1 08	0.22	7	25			
Hedley	19	35	120 10	1771	55 S	_	9	84.0	12	3.0		25.3	0.58		0.21	.5				
Hedley (Nickel Plate) Keremeos Kelowini(Okanagan Mission) Penticton Princeton Summerland Vernon (Coldstream Ronch)	49 49 49 49 50	15 29 29 57 14	119 29 119 35 120 29 119 0 15 15	1200 1650 1100 1246	57 2 52 5 53 7 51 8 54 2 53 0	$-\frac{2}{2}6$ $-\frac{2}{2}2$ $-\frac{2}{2}8$	5 13 6 18 6 19	\$1.0 75.0 71.6 80.0 84.0 80.0	13 13 13 11-12 14 12	37 0 32 0 32 5 27 0 36 0 33 0	29 29 23 4 3 2 4 3 2 4	20 X 23 9 23 7 31 X 11 9 25 4	0 70 0 85 1 37 0 49 1 31 0 70	0 0 3. 2 69	0.000000	4 5 5 4 1	N. 55 55 55 55 55 55 55 55 55 55 55 55 55			
West Koolenay																				
Crawford Bay Creston Grand Forks Greenwood Hower	49 49	45	116 45 118 27	2000	50 8 50 6 53 0 49 3		3 1 2 2 1	70 0 75 0 81 0 82 0 74 0	11 12 12 12-12 12-12 13	32 0 29 6 27 0 21 0 38 0	28 27 27 28 28 28	21.4 21.5 25.5 37.1	1 21 7 50 1 17 1 17 1 12 1 25		0 12 0 31 0 05 0 79 0 48	5 4 3	100		1	1
Kaslo Nakusp	49	52	117 0	1752	52 2 49 3		1	72.0	12 13	29.11	24	21.8	1.11		0.15		22			
Needles . Nelson . Rossland	49	29	117 21 117 48	1760	59.9	3 2	10	77 0 71 0	11	34 P 35 5		11.4	129	- 1.45	0.25	-				
East Kootenay	19	5	117.48	3400	50-2		9	43.0	15			1 +	1 -0			•				
Akanima Crunbrook Tobacco Plains (Elko) Wilmer	49 49 50	30 1 34	115 50 115 5 116 14	2684	47 0 19 7 46 5	4 4	4 15 3	87 0 78 0 70 0	11 13 12	19 1 25 0 95 0	11 24 - 17 2 - 17		11 55 2 1‡ 1 5	. B. 68	0 16 n 55 0 14	6 / 7	24			
Thompson River																				
Asheroft Enderby Kambops Nicola Lake Salmon Arm Salmon Arm (Exp. Farm). Tranquille	50 50 50 50	32 41 6 42 41	119 7 120 29 120 39 119 35 120 29	1180 1245 2120 1152	56 4 52 6 55 4 50 1 52 4 52 8 55 4	- 1 6 2 2 -	1 9 20 16 7 2 4	\$3.0 \$9.0 \$1.6 75.0 76.0 77.0 \$2.0	12 - 12 - 2 - 13 - 10 - 13 - 11 - 13 - 12	3 - 5 29 0 3 - 5 3 0 3 10 - 10 - 4 0 - 4 0		14 × 11 × 11 × 11 × 11 × 11 × 11 × 11 ×	1 45 1 54 1 87 1 97 1 21 0 15		0 14 0 14 1 12 0 59 0 59 0 18	6 8 5 4 5 5 4	140.5.200.00 10.5.200.00			
North Calambia River																				
Golden Glacier Revelstoke.	51 51 51	16 14 0	$^{116}_{117}\ ^{55}_{29}\\ ^{118}\ ^{6}$	2550 4072 1476	47.6 41.9 52.0	$\begin{array}{l} - \ {}^{2} \ {}^{3} \\ - \ {}^{1} \ {}^{2} \\ - \ {}^{0} \ {}^{8} \end{array}$	11 9 13	76 0 65 0 77 0	12 1 2 12	80 100 100	13	1.7	1 00 2 70 1 49	=0.41	0.45 0.50 0.37	47.5	15		2	

#### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, SEPTEMBER, 12.

"Stations not furnished with Registering Thermometers

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						1	Lines	BATTER				Pari	1131 111	10×	è			ď	
STATION	Latitude N	Longitude W	Elevation above sea level, in feet	Mear	Difference from average	Arstdomynthons	Bighest	Dav	Lowest	Rete	Nean datyrrage	Amount	Difference from average	Reavest fall in month	Pax = with 0 Lornin	No of fair days	No of auroras	No. of thunderstorms	No of fors.
BESTISH COLUMBY COS																			
North Coast Bella Coola Khtada Prince Rupett Stewart	52 40 54 18 56 1	0 / 126 54 130 18 130 1	150 170 235	35 2 51 5 51 6 31 0	+ 1 2	14	92 0 78 0 76 0 70 0	15 14 11-15 15	32 0 37 0 40 0 31 0	19 22-23 22 21	27 3 15 4 13 0 16 9	0 85 7 04 8 85	-2 7n	0 27 1 13 2 59 2 05	11 18 14 10	19 12 16 20			3
Queen Charlotte Islands	52 17	131 7					61.0	he.s	34.0		0.8	3 35		1.55	4	116			1
Ikoda Bay Massett	52 17 53 58	132 9	.30	57 b 57 \$	+ 0 1	1.0	55.0	118	20	10-24	12 1	3 91	+0 0a	0.82	14	26 16	::		
Yukon Boundary Atlin	59 - 35	133-38	.24	ale :			15.11	1.1	26.7		14.5	0.51	_	0.42	5	25	2		
YUKON-	1	110.0		1				. ,						. 12			-		
Careross Dawson	60 11	134-34 139-29	2171 1200	46.3			55.0	15	21.0	- '	17/8	0.47	-	0.29	- 6	24			
MACKENAU																			
Γt. Resolution	4 0	113-9	51.0	4 - 1			75.6	16	25.0		17 -	0.12		0.07	2	25			
Alberta — N. Saskatchewan Recer																			
Daysland Edmonton Endiang Gilt Edie Haffark (Em-Jourg Loveland) Pakan (Vertora) Renfuty (Watteheld) Sion Wortsskiwin	55 52 54 53 52 0 53 59 52 17 52 50 54 0 55 29 52 58	112 0 116 13 112 10 111 59 112 31 111 38	2158 27/5 2060 2180	49 7 45 7 45 7 15 0 45 8	- 1 3	5 1	75 ( 74 0 74 0 66 5 71 1 75 2 71 0	R II II II - IV - II II II	18 0 22 0 19 2 22 0 19 0 14 6 16 6	20 20 27 28 28 24-28	21 4 26 6 21 6 24 8 24 7 29 6	1 11 1 12 0 5 5 1 16 1 33 1 69 1 50	-7 3x	0 46 0 39 0 65 0 51 7 57 0 31 0 47 0 36	7 8 4 10 4 13 7	23 22 26 26 23 26 17 23	1 6 2	2	2 2 2
The Red Dier Kirer													I						
Abs Delin Disloury Especific Harmattin Hils bown Locourse Over Red Door Thresholds Creek	52 23 51 38 51 40 52 23 51 45 52 11 52 58 52 16 51 50	112 25 114 8 114 22 114 23 113 29 113 44 113 19	3500 3500 2800 2784 2800	1) 1 45 6 45 0 41 5 45 8 46 4	2 ā	2 20 3 8 5	71 ( 72 0 73 0 71 0 75 8	12 11 11 11 11	1 0 24 2 26 0 18 0 18 0 20 8	24 25 28 24 24 24	20 0 22 7 25 9 26 9 26 9	1 58 2 25 2 23 2 44 6 75 1 27		0 57 9 93 9 62 9 84 0 27 3 35	10 6 8 10 9 8	20 24 22 20 21 22	1	1	
The Bow River																			
Berry Creek Brods Calgary Cardston Furman (Playle Creek) Gleethen : High Raver Lawrence (Parkland) Letthtridge	50 .34 51 .2 49 .12 50 .55 50 .35 50 .16	114 2 113 18 112 54 113 53 113 26 112 51	3389 2952 3394 2961	46 7 45 5 47 0 46 6 46 5	4 r 3 2	15 0000	70 0 70 0 70 0 70 0 70 0 70 0	15 11 12 17	12 0 25 0 22 0 20 0 21 0	29 15-29 26 26 25	29 3 22 2 28 2 27 4 33 9	0.35 2.85 0.35 2.35 3.91	. 1 56	0 10 1 11 2 03	7 10 6 6 8	21 22		2	
bathlandge (Exp. 1 arm.) Macboni Modramo Hat Puncher Creek Strathmore Sundmi	49 43 49 44 50 1 49 6 50 6	113 24 110 37 114 4	3128 2161 3750	47 1 45 5 51 5 47 2 45 7 47 9	4 5 - 4 5 - 4 2	5 18 28 14 1 2	74 7 78 7 78 7 78 0 71 0	15 11 18 11 15	23 1 24 0 25 0 20 0 20 0 21 3	2555750	25.5	2 61 2 61 1 24 1 83 1 46 1 66	+0 ,,	1 19 0 61 6 52 6 45 0 26 1 03	10 8 7 9	22 22 23 21			
Rocky Mountains												1.7"		12	10	, ~			
Banff Blarmore	51 10 19 10	115 34 114 30	4542 4225	43.9	2.5	16	73 1	!1	23 1	7,4	24 0	1 03	-0.72	n 17	13	17			
Athabasca River Athabasca Landino		119 17	107.0		- o 1				13. 11		9 . 9	0.50		0.36	,	30			
Campae Lumaerd Pemba 2	54 - 33 54 - 33 54 - 12		1650	45 4 45 9 53 0	- 0 1	1 3	51 0 78 5 79 6 75 5	11	18 0 14 4 78 0 28 0	24 21	31 2 32 6 33 1 2 5 1	0 72 0 35 0 52 —		0 20	4 3	25 26 27			1
Peace River																24			2
Beaver Lodge Dancwenn Lott Vermilion Lott Vermilion (2) Fence River Crossing Sparit River	55 20 55 55 58 27 1 56 15 75 10	117 15	1305 2409	15 4 16 2 18 1	-	- 7 - 5	\$1.0 18.5 82.0	11 11 11	9 0 9 0 17 0	21 27 27 26	37 1 37 1 31 2	0 11 0 90 3 43 0 59	-	0 10 0 80 0 35	20 20 21	25 27 27 28	1	1	2

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STATION	Tartade Y	Longitude W	Heverteen aductor sea feer I, on feet	Mean	Distribution in a contract of the contract of	Vitte harmana	e	£	l . w . l		*	-		ř
SASEATO HEWAY														
Qu Appelle R ver		,												
Broadview Brownfull Greated Brownfue Crescent Lake Lettevat Fort Qa Appe le Hubbert Dramagae Humbeldt Imperal	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 30 2 70 6 0 2 25 3 4 0 21 6 5 7 4	19 00 19 57 19 58 18 58	1 14 14 14 14 14 14 14 14 14 14 14 14 14	11									
Indian Head Manor Monse han Mossition St. Feter's Mor Pulger Cattesy of Co. Appelle Co. Appelle Co. The St. St. St. St. St. St. St. St. St. St. St. St. St.	12 4 10 12 4 10 12 4 10 10 27 8	01 27 5 0 5 9 6 15 0 6 47 6 14 14 6 17	1924 2644 1756 1854 1870 1870 1870 1870 1870 1885	47 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	- 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1	1.00							17	
Yarko Harrhelde Yarko Harrhelde Yellow Grass Yerkton	2) 1 49 4 1 51 11 1	3 4 (1 0 (1 29		47 H 47 6		i	6 c							
S. Saskatchewan Recev Cheplin 1st Lhal (Divide) Kelyubust Nashiya Jarehmont (Gbal evan Oliver Each toillen Switt Current	50 57 19 47 11 1 49 21 1 49 54 1 51 45 1 51 20 1 50 20 1	06 29 08 49 08 29 07 27 08 57 08 57	200.2	47 41 1 7 24 4 48 0	* * * * * * * * * * * * * * * * * * * *	1 1 2 8		m,		;	1			
V. Suskatchewen Rices														
Buttleford I flowdin aster for eard Octon I also France Moson Scott (Fy Factor St Wallar) Wiscen		08 20 10 0 09 24 19 59 08 29 69 20 09 20	1020	10 7 44 4 44 2 41 7	1 -	33					1		4	
The Saskatchewan Forks				- 4										
Chagoness Star C + + + + + + + + + + + + + + + + + +	32 54 1 51 47 1	04-13 06-20 04-30 06-10 06-20 06-30	1302 1637 1571	20, 7, 48, 0, 45, 7, 46, 7	_ 1 ±	28 Fi								
Lower Suskatchen an River														
Cumberland House Lost River				16.4		2	76.7	12			1			
Manhora Qu'Appelle and Assin' boine Rivers														
Awrine (St. Allons) Borsevine Branch Carlorry Cartnan Cypress River Hillynew Minnedoes Ninette Diesen Piperson Piperson Portage la Practic Portage	50 25 1 10 51 7 10 51 7 10 52 6 10 53 6 10	90 11 90 57 90 50 90 br>90 50 90 br>90 50 90 50 90 50 90 50 90 50	1180 170° 1776 1278 872 1232 1400 1005 1703 1640 155 1 14 0	51 2 5 51 5 6 40 6 40 7 40 7 40 7 50 7 52 7 52 7 51 4 40 4	- 4 4									
The Red River Almassppi Mordon Oak Bank Stony Mountain Winnipeg	19 14 5 19 11 6 49 57 6 59 40 6 49 53 5	9 20 9 6 9 42 17 14 17 7	575 516 513 760	52 7 52 1 51 6 51 2 53 3	1 2 - 1 8 - 1 8						.3			1

#### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, SEPTEMBER, 12.

\*Stations not furnished with Registering Thermometers

			,					Темге	RATURE.			1	Рю	CIFITATI	on	76.				
STATION		Latitude N.	Longitude W.	Elevation above sea level, in feet	Mean.	P.ference from average	Yr's abservations	IIIghest	D.:e	Lowest.	Date.	Mean daily range	Amount	Difference from average.	Heaviest fall in month.	Days with 01 or more.	No of fair days	No. of auroras.	No. of thunderstorms.	No. of fogs.
Manitoba Continued																_		_	_	-
Dauphin Lake and River Dauphin Moose Horn Bay) Artkens- ville) Berens River	51 51 52	- 8 15	99 33 97 23	957 710	50 2 51 1	_	2	76 0 75 0	12-13 12	25 C 24 3	24-25 25	18 2 17 0	6 45 3 86	_	3 03	5	25 22	4	1	
Lake Winnipegosis Le Pas Swan River	53 52		101 15 101 15	860 1112	45 ft		2	78 0	11	26 0	26	16.6	3 54		0.66	18	13	ı		
Untario-																				
The Lake Superior Districts																				
Rainy River Kenota	49	4-	94 32	1102	19-1	- 2 5	12	78 0	5	26.0	27	15 5	6.78		1.03	12	18		δ	
Thunder Buy Kakabeka Falls Port Arthur Schreiber	48 15 48	27	89 26 89 12 87 15	912 641 933	52 0 54 5 52 3	+ 1 7	.10 6	77 6 79 6 75 2	5-12 12 5	22 2 29 0 26 5	28 28 28	92 2 17 7 17 6	4 09 4 d7 6,80	+ 1 74	1 03 1 11 1 20	13 13 17	17 17 13	1	6 3 7	4
Algonia Bruce Mines Copper Cliff Porcapine Providence Bay White River	16 45 48	30	83 55 80 59 81 18 82 14 85 16	595 1252	59 4 57 9 53 7 57 0 52 4	+ 2 *	13 6 2 2 22	52 0 50 5 53 0 70 0 78 0	7 7 5 3 6	28 0 32 4 21 0 21 0 27 0	29 29 25 28 28	20 9 1 17 4 23 6 20 1 -2 4	4 19 3 91 0 71 1 25 5 05	+0 63	0 92 0 93 9 22 9 46 1 35	13 14 7 4 14	17 15 23 26 16	1	6 1 4	i
Nipissing Cochrane Hadeybury Montreal River	49 47 47	2 29 8	81 0 79 39 79 29	946 687	56 1 55 F	+ 1 7	17 2	80 1 86 0	7 20	32 0 39 0	29 28-29	15 9 21 6	4 59 4 77	- 1_39	0 98 1 03	14 11	16 19		3 2	6
Upper Ottawa River Rutherglen (Lake Talon) Stonechif (Rockliffe)	46 46	15	74 48 78 6	557	58 I	- 1 1	17	81.0	6	25 0	30	18 3	4 16	+ 0 <b>4</b> ₩	1 !5	15	15	1	6	7
Upper St. Lawrence and Lower Ottawa Rivers Almonte Bloomfield Hiller Kingston Montague North Gower Ottawa Renfrew	45 43 44 41 45 45 45	12 59 13 56 8 26 26	76 13 77 21 76 29 75 57 75 43 75 42 76 39	350 260 285 284 416	57 4 69 5 65 9 60 3 58 3 62 7 51 5 57 4	+ 0 1 - 0 3 - 4 7 - 1 4 - 0 7	1 12 1 39 3 10 27 22	83 2 79 0 81 0 83 0 82 0 85 0 77 0 82 1	19 10 9 7 7 7 .0-11 7	28 1 34 0 32 0 35 0 28 0 27 0 31 0 29 0	30 30 30 30 30 30 30 30	16 1 14 9 18 7 14 2 17 9 21 3 13 7 17 0	3 07 3 28 1 01 4 23 2 06 4 34 2 15	+2 25	0 54 0 59 0 59 0 67 0 73 1 20 0 54 0 63	15 10 15 23 15 4 18 16	15 20 15 7 15 26 12 14		5 7 2 2 2 3	2 4 5 3
Georgian Bay Counties Bartre Bartre Coldiwator Coldingwood Graveshurst Huntsville Midland Markdale Orilin Owen Sound Parry Nound Ronville Shellurna	44 45 44 44 15 44 44 15 45 15	23 8 38 31 54 19 44 37 34 10	79 41 79 20 79 40 80 2 79 20 79 8 79 53 79 24 80 55 80 0 1 78 57 80 47 79 25	839 800 600 750 775 597 635 1038	59 8 57 7 61 4 61 0 57 6 57 8 	1 0 5 + 3 2 + 4 1 + 0 9 + 0 b + 1 2 + 1 5	32 37 23 15 41 6 5 1 21 36 5	87 5 83 0 87 0 91 0 85 0 85 0 90 0 84 0 83 0 94 0	10 10 10 10 10 7-10 10 7-11	35 5 31 0 32 0 31 0 31 0 31 0 33 0 33 0 59 0 30 0	30 36-29 30 30 30 30 28 20 28 20	15 4 16 6 22 5 20 3 20 2 18 8 19 7 16 7 16 3	2 97 3 72 2 59 2 09 4 46 3 10   2 85 4 20 3 57 2 98 3 01   1 35	+0 30 -0 68 -0 17 -1 69 + 2 09 	0 55 0 54 0 91 0 67 0 61 	18 12 9 13 -7 10 11 16 13 12	14 18 21 21 17 23 20 19		3 3 4	3
Uplands Lake Huron Counties Burnan Clinton Godenich Lucknow North Bruce Point Clark *Sarina Southampton	44	48 32 45 56 23 5 30	79 25 81 35 81 37 81 41 81 30 81 25 81 44 82 24 81 21	505 505 586 656	63 1 61 5 57 9 61 4	-	27 10 22 26 24 42	85 0 86 0 84 5 85 3 81 0	6 6 6 10 6-4	25 7 37 7 35 0 37 5 31 6 35 0 	30 30 30 30 25	15 0 15 0 15 9 17 6	4 65 4 36 4 50 1 7 59 3 73 5 5 66	-1 84 +1 56 -1 +4 46 +1 00 +2 91 +1 77	1 60 0 85 0 82 2 60 0 79 1 61 0 67	12 18 16 16 14	18 12 14 14 16 24		7 5 2 6 3	2 2 1
Charless St. Clair & Erie, Niagara Peninsula Charless Cottam Cottam Cottam Cottam Cottam Port Burwell Port Burwell Port Stanley St. Catharines Staney Crock Wallacelurg Welland Windham Centre	42 42 43 41 42 42 43 43 42 43 42 43	23 7 13 50 27 40 9 13 35 59	82 12 82 45 76 36 82 35 80 55 80 13 81 12 79 17 79 45 82 24 79 17	595 306 595 592 635 592 317 292 577 625	65 5 1 65 1 64 2 53 4 63 7 62 6 62 4	+ 48 + 25 - 69 + 16:	26 27 215 40 31 27 26	55 0 94 0 94 0 77 0 83 0 91 5 81 5	7 10 9 10 10 2-11 6 6 10	37 0 30 0 37 0 39 0 39 0 34 0 35 0 37 0	30   1 2   2 20 30   2 30   30 30   1	20 4 25 0 1 18 3 17 5 14 2 17 8 10 7 6 5	3 37 12 87 2 63 3 43 3 24 3 15 - 5 29 - 3 88 -	+1 32 +0 18 +0 65 +0 65 +0 37 +2 24	11 90 9 85 0 85 0 98 1 24 0 63 0 41 0 99 1 72 1 15	8 10 17 5 10 16 16 16	22 20 13 25 20 14 14 18		3 2 3	8 5

# $\textbf{TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF (ANADA, SEPTEMBER, ^). \\$

\* Stations not furnished with Registering Thermometers

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STATION		Latitude N.	_	Longitude W.	Elevation above level in feet,	Mean	Difference from	Yr's Observations	Inphest.	Date.	Lonest	Date	Mean daily range	Armunt	Difference from	Heavest fall in month.	Uasswith utorn.	- E	No of auroras	No of thunderstern	N. of fugs.
UNTARIO-Continued-																					
West-Central Counties			0	,																	
Alton	13 43 43 43 42 43 43 43	10 41 33 59 12 12	80	21 24 16 13 25 0	1259 750 1274 1050 808 840 1191 980	63 3 61 0 61 2 64 0 63 3	+ 3 1 + 3 3 + 2 5 + 0 1 + 2 6 + 3 4	30 15 27 26 23	88.0	6-10 6-7 6-11 6-10	32 0 30 0 33 0 33 0 35 0	29 30 30 30 30 30	19 0 15 2 20 7 18 5	1 93 5 49 3 30 5 59 4 78	+5 14 • 1 13 +2 53 +2 07	1 (5 0 67 1 12 1 87	11 17 14 14 15	16 16 15		5 5 6	i
Lake Ontario Counties																					
Agincourt Aurora Hamilton Toronto 1s.(Lakeside Home) Uvbridge Wexford	43 43 43 43 43 44 44	57 16 40 40 5	7.9	24	590 886 303 350 886 555	61 5 59 3 63 2 62 7 61 4 60 4 59 8	+ 1 1 + 1 5 + 1 9	17 5 35 71 8 7	90 0 86 3 89 0 92 7 83 0 88 0 88 0	10 10 10 10	33 5 32 0 37 0 36 3 39 0 34 0 34 6	30 30 30 40 30 30	13 5	5 35 4 26 4 04 3 28 5 64 1 64	+1 71 +0 86 +0 43	1 49 1 40 1 82 0 47 1 58 1 27	13 14 6 16 14 13	16 24 14		1901 100 0	1
East-Central Counties																					
Baneroft Habburton Kommount Lakefield Lindsay Macbe Peterboro' Usa	45 44 14 44 44 44	45 25 20 30 17	77 75 78 78 78 78	50 28 38 15 45 29 19	1050 920 850 872 575 722	57 2 58 4 56 5 60 2 59 2 58 6 60 3	$\begin{array}{c} + 4 & 2 \\ + 1 & 6 \\ + 0 & 6 \\ + 0 & 3 \\ + 2 & 0 \\ \hline + 1.5 \end{array}$	21 25 13 29 30 30	85 0 87 0 85 0 83 0 87 6 85 0 90 0	10 10	25 6 28 0 26 0 34 0 32 2 31 0 32 0	29 27-30 29 30 30 30 50	17 6 19 5 19 9 16 6 19 0 17 3 20 0	1 13 5 00 3 10 3 20 6 64 4 15 3 02	-2 54 +2 07 +0 05 +0 74 +3 76 -0 16	0 83 0 92 0 71 0 70 1 03 0 55 0 64	11 19 15 20 15 15	28 19 11 15 10 12 15		1 4 4 4	5
Queakc-																					
Middle St. Lawrence																					
Bromo Can Rouge D'I-rach Montreal Quebec. Ste Anno de Bellevue Shawingan Fulls Shedrooke	45 46 45 46 46 46 46	46 55 30 45 27	72 71 71 73 71 73 72 72	36 18 21 35 13 59 43	678 896 187 296	55 9 53 4 52 7 57 7 53 9 56 8 52 3 55 4	+ 0 7	32 35 35 6 9	78 0 74 0 75 0 74 3 71 6 77 0 75 0 75 0	15 9 26-27 7-15 1 4 4	30 0 31 2 31 0 33 4 31 5 29 5 28 0 31 8	3d 30 30 30 30 30 30 20	15 0 16 5 21 7 12 1 13 8 15 5 19 2 16 5	7 57 3 34 2 71 6 41 3 29 5 54 2 55 6 01	+4 (0 - -3 02 -0 48	1 65 0 73 0 71 1 14 0 87 1 00 0 58 1 50	13 12 5 20 18 22 15	17 18 22 10 12 3 13		2 2 1	4 3 2
Lower St, Lawrence & Gulf			i																		
*Anticosti, E. Pt *Anticosti, W. Pt *Bicquet *Cape Chatte *Cape Mag-lalen Father Point	49 49 48 49 49	25 6	61 64 65 66 65	42 32 53 45 20 19	30 30  93 20	47 7 48 1 49 8 49 1 48 7 17 7	$ \begin{array}{rrrr}  & -4 & 0 \\  & -3 & 5 \\  & -2 & 9 \\  & -2 & 2 \end{array} $	29 31 31 31 30 35	59 0 58 0 68 0 60 0 66 0 65 0	5 11 5 14 5	35 0 39 0 37 0 37 0 32 0 36 0	17-29 29-30 28-30 30 30 21		1 93 1 50 2 73 0 61 0 97 1 95	-1 22 - + 33 -2 02 - 63 -1 00	0 72 0 65 0 43 9 30 0 35 0 35	4 6 9 3 7 15	26 24 27 23 15	1		6 3 3
Lake St. John																					
Chicoutimi Chicoutimi (2) Lake Filward La Tuque Mistassuni *Roberval	48 47 47 48 48	25 39 27 54 31	71 72 72 72 72 72	5 15 48 15 13	150 1333 520 360 352	52.8 49.9 55.3 50.4	=	33 2 3 1 1	74 0 72 6 73 0 73 5	- 5 5 16 5	28 0 26 6 30 0 28 5	23 23 30	16 7 16 5 17 9 18 6	0.15 2.25 2.25 1.37	-2 55 -	0 31 	9 9 12	23 21 21 18	1	1	1 4
The Northwestern Districts																					
Abitibi Manouan Crossing Weymontachingue (Dam. A) White Shore Lake	48 47 45	33 54 12	79 73 75	22 50 43	•	54 0 50 2 51 8 50 6	+ 2 2	1 1 1	75 0 74 0 74 0 75 0	4 5-6 7-9 6-7	39 0 28 0 25 0 23 5	16 30 16	14 4 19 7 22 6 20 5	2 53 1 10 0 72 2 25	+0.12	0 92 0 21 0 40 0 55	9 -0 -4 -10	21 21 26 26	4		
The North Shore																					
Clarke City	50	10	66	25																	
New Brunswick-																					
Chatham Dalhouse Federicton Moneton Point Lepreaux St. John St. Stephen Susary	47 48 15 46 45 45 45	3 4 57 9 4 17 11 13 38	65 66 66 64 66 66 67 65	29 22 36 45 28 4 16 38	21 39 164 50 30 70 35	54 3 54 7 53 0 53 9 55 0 54 3 55 6	- 2 7 -1 5 - 2 8 - 0 7 - 1 6 - 3 3 + 0 3	38 35 39 15 59 31 15	73 0 65 0 76 0 75 0 65 0 71 2 79 5	11 16 15 15 15 11	33 5 6 32 2 30 0 41 0 38 5 28 6	5	12.4 22.1 21.1 12.7 25.7 25.7 22.7	2 40 1 10 4 (5 2 65 2 66 45 46 15	1- 13 -1 78 +0 68 -0 24 0 99 0 19 +0 39 +0 32	1 12 o 55 1 55 0 80 0 88 1 47 1 15 1 12	11 3 9 6 4 11 5	19 27 24 29 19 24 27		1	7 26 24

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, SEPTEMBER, 12.

\*Stations not furnished with Registering Therm amoters

			#			-	I I ME	ERATUR	С			Pitte	111111	133,	g		8	
STATION	Latitude	Longatude	Elevation above sea   level, in feet	Mran	Difference from	A r's Obgreguens	Bishes	Pete	Lowest	Date	Mean daily range	п. мин.	Difference from	Heavest full in mouth	Days with .01 or more	No. of fair days	No of thurderstorms	
NOVA SCOTIA-	0 /																	
Antigonish Halifax Kentville New Germany	45 38 41 39 45 3	63 36	50 88 40	52 4   56 2   51 4 54 0	- 2.6		$\begin{array}{cccc} 74 & 0 \\ 75 & 1 \\ 72 & 0 \\ 78 & 0 \end{array}$	15 15 12	34 0 33 4 28 0 30 0	16 25 29 20 20 20	22 8 21 5 20 1 27 4	3 37 2 85 2 96	· 0 - 45	1 04 1 36 1 07	7	20 23 25		
Parrsboro'. Port Hastings *Sable Island, E. Pt Sydney	45 23 45 39 43 58 46 10	61 22 59 46 60 10	40 45 25 35		- 14	21 25 39		11-13 15-19 14	35 0 50 0 .4 0	30 29 24	15 6 	2 61 2 11		1_55 0_86	3 11	27 . 19		
Truro *Whitehead Windsor Wolfville Yarmouth	45 22 45 15 44 59 45 7 43 50	61 8 64 6 64 20	77 20 90 65	54.5 - 54.5 - 55.7 - 51.9 -	- I b	10	75.0	5 16 15	45 0 33 0 37 8 38 1	23 29 24 29 29	19 4 16 9 15 3	1 91 2 80 2 77	-0 07 1 12	0,68 1 26 1 33	6	23 24 20	. 2	:
P. E. ISLAND-																		
Charlottetown Charlottetown (Exp. Farm) Hamilton	46 14	63 10 63 7 63 48	22	54.0	- 3 <b>1</b> - 2 6	- 3	73 U 73 U 63 U	15 15 7 17	39 0 38 0 40 0	22-23 21-30	15 2 16 3 11 4	$\frac{2}{2} \frac{84}{90}$ $\frac{2}{1} \frac{90}{51}$	- 2 m	0 81 0 87 0 87	7 9 4	23 21 23	1	
Newfoundland— *Amour Point Burin *Cape Norman	51 28 47 0 51 38	55 10 55 52	27	12 5 50 5 42 6		<del></del>	54 0 64 0 57 (	28 21	33 0 33 0	23 24 30	16_0	1 30 2 73 6 73		0.80 0.50 0.21		28 14 24		11
Fogo *Point Riche Port aux Basques St. John's	49 43 50 42 47 35 17 34	57 25 59 10		45 7 49 3 1 16 0	4 9	4	67 0 67 0 68 0	2.7	40 0 31 5 33 0	23 18 35	11 6 12 7	1 3n 3 82 5 68	- +2 18	0 40 1 08 2 17	9 11 19	19 .		
Labrador- North West River				44-6			^5 B	1.1	27.0	18	16.7	_	_	_	!			
Bermuda— Prospect	32 17	64 46	151	76.2	- 1.6	22	S5 4	18	ьй D	1	12 1	1.78	-3 46	0.66	11	19		
			(	J														

. 10 (10) - 22 2		R.	AINFAL	.L			8500	21.411		
STATIONS.	Amount in inches	No of Days 01 or over.	No. of Fair Days	Heaviest Lall in Month	Date	Amodon P. melies	No a Days	Heave Large in Months	D., (	RI MARKS
British Columbia— Alkali Lake Annis Canoe Point) .	0 61 1 29 0 95	5 6 4	25 24 26	6 52 9 53 0 38	9 7 2					
Armstrong Akamina Beaver Lake	1.02	4	26	0.34	30					
Barriere Valley (Louis Cr.)	1.72	5 4	25 26	0 6n 1 32	1					
Denman's Island Ferguson Goldstream Lake	1 53 1 53 1 44	8	22	0 52 0 35 0 68						
Hydraulie Hornby Island Jordan River	0.97	9 6 7	21 24	0.21	25					
Jordan River Jordan River (Bear Creek)	3 26		23	2 13	2					
Jordan River Jordan River (Beaz Creek) Little Qualicum Monte Creek Nans Harbour Rock Creek	1 58 1 11 7 70	1, 3 10	24 17 20	0 70 0 45 1 70	15					
Rock Creek Shawngan Lake .	0.89	5	25 24	0 31 1 15	1.2					
Wychffe	0 10	. 2	28	9.47	22					
Albert v Bardo Bismark	1.65	4	26 26	0 27 0 39	ā					
Bruederheim . Bittern Lake	1.96	.5	24	0.95	19		1		2.	
Brooks Caldwell	1 54 1 96 1 19	11 11 3	19 17	0.71 0.73 0.90	3 23 18		ž		15.22	
Dorenke . Dunstable Grassy Lake	0.51	6 4	26 23 25	0 35 0 15	4	0.1 2.0	i	1.1	-3	
Jumping Pound Laronnbe	0 40 2 47	ī	24	11 1919	`					
Loch Sloy Lynden Lukeham	2 12 3 19	4 3	26 25	1 15 1 60	9	1.2	2	0.6	\$1.5	
La Pearl Macleod	1 37	5	26 21	1 17 0 35	8 5 23	4.0	}	: 0		
Mayeroft Nateby Nanton	1.08	9	20	0.34	23	2.7	1	2.7	21	
Nanton Okotoks Pekisko	3 32 2 16 1 89	Ĩ	22 26 20	1 07 1 41 0 70	8 8 22	7.0	1	4.0	21	
Ponoka Sion	0.93	8	28	0 63	3			*		
Seven Persons Tilley	1.80	5	25	H 60	`					
Aberfeldy.	2.08	5	25	1.62	6					
Aberfeldy, Gull Lake Gull Lake (Uks. Swift Cur.)	1 62 0 65	3	25 25 27	0.52			!	,	14	
Last Monnton Maple Creek Mendow Lake Nashlyn (Kelymlarst)	9.45	6	24	0.45	4					
Nashlyn (Kelvinhurst) Willow Creek (Battle Cr.)	0.94	b	21	0.44	21					
Manitora— Captwright	5 67 3 7J	b	21	2 - 25 1 + 15	1:	0.1	1			
Deforance Gretna Norquay (Swan Lake)	3 TJ 5 OI	10 9	20	1.45	12	2.0	1	2.0	25	
Rapid City Rose Bank	3 52	ô	24	1 22	11		,			
Deer Park Dutter	3.43	11	19	0.70	22					
Emsdate Fort Frances	3 40 4 46	16 11	14 15	0.77	23 4		1		21	
Georgetown Grantham Grand Valley	4 03	16 14 15	14 16	0.7a 1.10	1 23					
Hillier Indian Chutes (E.B. Luke)	4 72 2 15	8	15 22	1 66 0 48	1 10					
MacCue Princeton Sydenham	8 21 3 27	11	19 22	0 62 F 95	29 23 23					
Strathroy Watford	2 65	5 10 11	25 20	0.85	18 17					
Westport Westminster	5 4% 2 78 4 34	12	19 18 20	1 27 0 45 1 02	24					
Wooler Wesley	0.59 1.23	13 15	17 14	0 70 1 27	24		1			
Wattenwyl Wineton QUEBSC-	3 70 3 54	11 10	19 20	1 15 0 76	22					
Lucerne Perkins Mills	4 40 4 19	5 14	25	1 32 0 81	7.					
Quinze Dam Timiskaming	3 99 3 87	5 15	16 25 15	1 21 0 73	26 10					
New Bresswick— Point Escuminae.	2.18	4	26	1 02	3/1					
Nova Scorra— Big Mushamush Lake (Ma- hone)	1.70	I	20	1.20	.513					
Kentville Kedgemakooge Lake	4 30 2 79	8	22	1 30 0 75	16					
(New Grafton Milton Mushamush River (Mahone)	2 72 4 23 2 86	5 I	25 29 22	1 0 4 22	294 500					
South Alton		8		1 00	34					
White Rock	2 25	ti	24	0.12	16					

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF SEPTEMBER, 12

a Barometer not reduced to sea level

		, .	=		Рив	URE		ndity.	eloud.	etely			Dп	tE: Th	ON 01	Wr	ND FI	1071			Vi	LIO-ITY OF WIND
STATION	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean reduced.	Highest.	Lowest	Range.	Mean relative barndity.	n amount of	No of days completely   clouded	Z	NE	E	- x - x - x - x - x - x - x - x - x - x	vá I	S.W.	::	N N	c	Total number of observations	Mean miles per hour	Maximum velocity.  Date and direction from.
Attin Barkerville Kamioope  Attin Barkerville Kamioope  A Sanating Dert Transple 1-sland  (Transple 1-sland  (Transple 1-sland  (Transple 1-sland  Vancouver Victoria	50 4 49 I	7 0 7 5 133 38 2 121 35 2 120 29 0 123 37 8 130 18 2 129 5 1 120 29 7 123 5 4 123 19		28 68 30 03				64 81 81 70 80 77	100000000000000000000000000000000000000	4 6 4 18 8	0 5 0 0 1 1 1 1 1 10	1 2 2 0 4 0 1 1	2 10 2 4 2 10 1 5	18 1 0 7 9 18 0 8 5	28 0 2 22 22 14	2 3 0 1 0 4 2 9	1 01 22 0 0 4 30 10 4	3 0 7 9 0 10 0 2	1 53 12 41 25 2 0 29	60 60 60 60 60 60 60	11 + 1 + 2-3 3 8 2 2 15 3 2 6 6 3	24 0 20 0 168W 16 0 19W 35 0 308W 12 0 98E 46 0 48E 16 9 - 23 0 148E
YUKON— Dawson	h4	4 139 20	1200																			
ALBERTA— Banff Calgary Edmonton Mudicine Hat	51 : 53 :3	$0 \frac{115}{115} \frac{34}{34} \\ 2 \frac{114}{113} \frac{2}{30} \\ 1 \frac{110}{110} \frac{37}{37}$	4542 3389 2158 2161	30 06: 30 02: 30 02: 30 02:	30 45 30 45 30 53 30 47	29 60° 29 54 29 6° 29 54	0 88 0 92 0 93 0 93			4 5 0 2	1 2 3 4	8 4 5	1 3 2 3	12 7	1 0 6	15 1 8 19	5 1 6 11	31 10 2	27 6 13	60 63 60 60	4 7 4 4	27 0 19 NW 19 0 18 NW
SASKATCHEWAS — Battleford Moose Jaw Prince Albert Qu'Appelle Swift Current	50 2 53 10 50 30	0 103 47	175% 1432 2115	29 99 29 94 29 99	30 58 30 45, 30 52	2 ( 53 )	1 05 1 33 1 20	81 86 82 75			8 11 5 7 3	1 9 5 6 2	2 7 0 2 10	12 1 2 3 7	1 1 6 2	14 12 3 13 16	9 5 4 11 37	11 9 12 16	22 33 25 0 2	9a 90 60 60	7 4	43 0 5NW 33 0 68W
MANITOBA— #Aweme (St. Alban's) . Le Pas Minnedosa Winnipeg	50 13	2 99 33 9 101 15 5 99 50 3 97 7	1180 860 1699 760	28 65 . 29 94 . 29 97 . 27 95	2   16 30   51 30   53 30   46	28 38 29 27 29 51 24 56	0 78 1 21 1 02 0 90	251	6	8 7	 0 10	6 1 8	3:	4 .1	0 0 8	11 10	1 1 1 6	·	1 40 2	60 60	10 5	33 0 14NE
Oxt Milo— Coelirane Hailes bury Kingston Ottinwa Parry Sound Port Acthur Port Stanley Sunthampton Stonechiff Union Port Windstock	141 10 42 50 45 20 45 11 48 40 44 30 46 4 46 4 48 30 48 30	2 81	285 808 294 635 644 592 656 557	30 02 : 31 05 : 30 02 : 30 03 : 30 02 : 29 96 : 30 03 : 29 96 : 30 02	10 40 10 35 30 36 30 39 30 41 30 37	29 15 1 29 70 1 20 78 1 29 71 1 29 54 1 29 64 1 20 70 1	0 65 0 65 0 65 0 68 0 87 0 73 0 71	83	5 .6 .7	5 Hi	3 t 0 2 8 4 2 3 5 0 t	6 19 20 0 5 4 2 7	2 4 0 19 6 6 10 1 1 15 0 7	11 43 6 7 1 9 12	1 0 2 4 6 0 14	57 5 16 4 4 3 2 9 9	8 10 9 12 14 6 3 16, 0 43	3 5 22 4 6 10 15 5	11 2 0 2 8 6 16 2 8 2 8 2 6	60 60 60 60 60 60 60 60 60	6 4 9 0 5 2 9 6 3 3	21.0 268 21.0 258E 23.0 ENW 20.0 108W 33.0 21E 14.0 30NW
QUEBEC— Father Point Montreal Quebec	48 31 45 36 46 48	1 68 19 9 73 35 8 71 13	20 187 296	30 03 3 30 04 3 30 05 3	30 35 30 35 30 30 39	29 63 6 29 71 0 21 65 0	1 75 9 61 1 74		6 : 7	8 10	4	2 8 4	11 3 0	4	6 13	7 11 11	15	8 9	11 0 0	60 60 60	S 3	31 0 16W 40 6 19NE
New Brunswick— Chatham Fredericton St. John	47 5 45 57 45 17	3 65 29 7 66 36 7 66 4	21 164 70	30 06 3 30 06 3	0 44 : 0 45 : 0 43 :	2 i 57 i 2 i 59 i 2 i 62 i	F 87 F 83 F 81	71	6 7 6	2 6	12	37.	6 4	0 8 2	2) 10 6	11	14 13 2	11 25 3	3 5 16	60 96 60	5 3 9	17 0 17 W 25 0 30 N
Nova Scotta— Habfay Sydney aWolfville Yarmouth	46 10 15 7	1 63 - 36 1 60 - 10 1 64 - 20 1 66 - 2	35	39 04 3 39 02 3 29 96 3 30 07 3	0 45 : 0 32 :	29 59 0 29 53 1	F 95 F 79		, 6-	5	10 1 6 12	19 13 1 7	4 1 1 8	1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1	1 2 1 5	3 7 13	13 7 13 8	1.7 9 2	0 7 16 8	60 60) 60)	9 9 5 4 7 8	29 0 11N 16 0 PN 19 0 18SW
P. E. ISLAND Charlothetown	¥6 14	1-63 - 10	38	30 04 3	0 42 ;	9 55 (	81				1"	ti	1	0	0	6	2	7	12	601	4 6	15 0 6N
NEWPODENDLAND Burin Fogo Port any Basques St. John's	19 43	0 55 10 6 54 17 6 59 10 6 52 42	30 27	29 98 3 29 98 3 29 91 3	a) 43 :	9 )*	1-96	 80	. 6		1 5 7	11	2	2 3	1 2	8 3 13	6 9 4	27 17 11	2 2 0	60 60	12 3 18 6	37.0 11W 39.0 30NE
BERMUDA Prospect	2 17	61 46	151	30 06 3	0,24;	919	33,		-		9	18	9	1	5	7	,	3	0	60	9-1	23 0 1 N

# MEAN PROPORTION OF PRIGHT SUNSHINE REGISTERED IN 1 ACRES OF THE CAST AND THE MONTH OF SLEETENBUR 191.

STATION ta m T Victoria (1) Salmon Arm 36 Nanaimo Vancouver Agassiz Tranquille Summerland Kamloops Edmonton 0.1 Lethbridge Laconibe 54 1.1 Medicine Hat Fort Dunvegan Fort Vermilion 86 Battleford Indián Head Moosejaw Scott.. 54 Rostbern 04 Brandon Winnipeg 46 09 Ha.leybury 43 Woodstock Lindsay Barrie 01 41 Toronto 41 03 20 Kingston Ottawa Montreal.. 42 Cap Rouge. Quehec 24 Sherbrooke ns 42 411 Fredericton 44 24 Charlottetown 40

-																																			
	Victoria.	Salmon Arm.	Nanaimo.	Vancouver.	Agassiz	Tranquille.	Summerland	Kamloops	Lalmonton	Lethbridge	Lacombe	Meelicine Hat	Fort Duny egan	Lort Vertuilson	Battleford	Indian Head	Monse Jaw	Soutt	Rosthern	Brazil n	Merger	H & Line			Euro	Lorentee	Kingston	Ottawa	Montreal	Cap Rouge	Quebec	Sherbraske	Fredericton	Charlettetown	- Anglass
stered duration hours	187	169		186	164	119	221	2.4	194	169	175	155	14.	2.29	101	11	1.59	133	130	125	11.		1	1		143	83	102	107	91	103	108	137	152 1.	50
entage of pos- le duration "	50	45		411	44	34	59	59	ān	45	46	41	37	62	72	. (	37	35	35							35	22	27	31	24]	27	29	36	41	10
rence from av-	+ 5	-		_	<sub>+</sub> 13	_	-		_							,				13	-11			- 1	.5	-:-	29 -	-17	-22	_		-	- 2		
mum percent- in one day 'o	80	83		86	82	77	48	89	N3	90	77	7.5	72	84		7.2	82	81	85	7		87	- 1			4,4	63	56	94	75	79	55	8.,	79 - 8	50
of maximum.	27	1.5		20	20	27	16	20	11	17	15	11	15	4			29	29	13					i	ŧ	7	î	16	16	-6	6	2.5	16	7 :	12
ber of days	3	4		5	5	11	3	3	2	4	â	5	٤	1		ī	11	9	9	r		0		5	í	3	10	7	,	4)	,	7	4	5 ;	<b>{</b>
			1																																

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# FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF SEPTEMBER, $_{\rm 1912}$

	DIRECTION OF WIND FROM									
STATION	ż	N. E.	竝	S. E.	Ś	S.W.	>	N.W.	Ċ	Total num- brr of Obser- vations
ALBERTA— Athabasca Landing. Campsie. Didsbury. Endiang. Halkirk (Emsburg). Hillsdown. Loveland. Macleod. Pakin (Victoria). Ranfurly. (Wattefield).	5 2 1 8 2 0 2 9 3 11	0 2 1 1 1 2 4 0 5	3 4 3 0 1 0 2 2 3 5 7	1 6 3 22 6 7 10 0 0 14 11	2 0 2 5 19 10 3 0 3 7	4 10 9 2 11 3 7 1 13 4 12	11 6 0 1 5 0 5 21 10 19 20	4 15 11 3 15 21 11 0 18 17 22	0 9 0 0 17 16 27 5 12	30 54 30 42 60 60 60 60 90 95
SASKATCHEWAN - Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Kawnack Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca Maniforma—	0 4 3 8 1 12 0 0 0 0 10 1 1	3 2 2 1 43 11 0 4 0 8 2 0 2	0 0 3 3 2 3 0 1 4 1 8 0 1	3 1 0 13 5 2 1 1 1 2 4 4 4	0 3 3 1 1 5 1 0 0 0 0	8 7 7 11 19 12 3 9 1 14 0 7 6	1 6 8 10 5 14 2 19 12 0 0 10	15 6 4 9 14 18 0 25 12 35 3 8 6	0 0 0 4 0 13 23 1 0 0 0	30 30 30 60 60 90 30 60 30 60 30 30
Bereis River Brandon Hillview Moose Horn Bay (Aithensville) Morden Oak Bank Stony Mountain Ontarto	1 4 12 10 3	19 5 8 3 3	5 18 4 3 3	6 0 2 3 1	0 1 3 0 1	14 7 1 6 1	16 21 11 16 10	22 34 9 9 5	7 0 10 10 3	90 90 60 60 50
Agmoourt Alton Beatrice. Brinam Clinton Cottam Gravenhurst Lindsay. North Bruce Orillia Owen Sound	12 12 5 13 13 14 3	6 6 4 0 0 2 0	22 1 10 4 2 5 0 5 2	3 	3  19 14 4 24 11 13 45 4	26 7 2 9 4 7 13 10 8	5 6 12 6 8 2 21 2	7 0 11 0 5 11 6 4	32 6 0 0 16 21 0	90 60 60 60 90 90 90 26
Point Clark Port Dover Scarboro Junction Stoney Creek Unlands	6 2  1 9 0	7 0  19 0	12 8 12 2 9	6 4 	12 2  2 11 0	1 1  14 0 4	8 10 34 7	8 3 2 0	0 0  0 0	60   30   90   30   30
Wexford  QUEBEC  Abitthi  Anticosti, W. Pt  Anticosti, Heath Point  Diequet  Brome  Cape Chatte  Cape Migdalen  Cap Rouge  Chicoutini  Clarke City	8 17 17 0 5 5 4 6	1 6 12 18 2 5 3 11 24	7 9 9 0 9 10 2 0	9 3 3 0 4 0 3 0 8	30 26 3 3 17 0 22 0	7 1 10 35 2 5 7 0 6	25 5 10 34 40 28 3 0	3 23 17 0 3 3 31 13	0 0 9 0 8 34 15 0 37	90 90 90 90 90 90 90 90 30
Clarke City Manourn Crossing New Brunswick - Dalhousie Moncton Pt. Lepreaux Sussex	0 0 9	0 1 10 4	0 10 0 8 0	0 2 9 0	3 0 0 1 0	13 1 0 10 4	18 8 16 2	4 0 15 12 0	0 1 4 0 20	30 30 30 75 30
Nova Scotia — Kentville	0	2 .	6	2 4	1	2	9	8	0	20
Port Hastings Sable Island, E. Pt Truro Whitchead.	21	21 13	0	6	3 c 	11 36 16	0 0	7 27 <sub>7</sub>	0 0 0	90

Thunder recorded:

- 1. Princeton, Westminster, Georgetown, Wes'ey, Emsdale, Agincourt, Beatrice, Point Clark, Stoney Creek, Brantford, Birnam, Lucknow, Clinton, Orillia, Midland, Hillier, Alix, Hillsdown, Goderich, Paris, Aurora, Hydraulic, Rock Creek, Muenster, Saskatoon, Lost River, Parry Sound, London, Gnelph, Gravenhurst, Lindsay, Port Stanley, Barrie.
- Dunstable, Indian Chutes, Point Clark, Brantford, Birnam, Lucknow, Clinton, Kakabeka Falls, Waitefield, Schreiber, Goderich, Paris, Treherne, Awenie, Grand Forks, Saskatoon, Parry Sound, Port Arthur, London, Gravenhurst, Port Stanley, De'eraine, Barrie
- 3. Rapid City, Brantford, Kenora, Almasippi, Paris, Oakbank, Awene, Sion, Lost River, Fort Qu'Appelle, Minnedosa,
- 4. Kakabeka Falls, Kenora, Almasippi, Paris Merden, Sion, Muenster, Lost River, Pambrum, Chaplin, Fort Qu'Appelle, Winnipeg, Minnedosa,
- 5. Westport, Georgetown, Agincourt, Stoney Creek, Bruce Mines, Port Dover, Birnam, Lucknow, Clinton, Renfrew, Hillier, Minnedosa, London, Guelph, Lindsay, Kingston, Providence Bay, Copper Cliff, Kakabeka Falls, A'masippi, Aitkensville, Schreiber, North Gower, Madoc, Rutherglen, Bancroft, Haliburton, Aurora, Peterboro, Wexford, Mu uster, Fort Qu'Appelle, Southampton, Toronto, Port Arthur, Winnipeg, Barrie.
- Jumping Pound, Indian Chutes, Georgetown, Agincourt, Bruce Mmes, Port Dover, Schreiber, North Gower, Rutherglen, Aurora, Wexford, Lost River, Southampton, Toronto, Wannipeg, Hailey-bury, Kingston, Barrie.
- 7. Cartwright, Kenora, Hillsdown, Almasippi, Brome, Treherne, Morden, Lost River, Pambrum, Rathmullen, Ottawa, Minnodosa, Willow Creek.
- 8. Lucknow, Providence Bay, Kakabeka Falls, Kenora, Schreiber, Mucuster, Rathmullen, Winnings, Fort Vermilion (2).
- 9. Wattenwyl, Emsdale, Beatrice, Bruce Min. s. Barnam, Clinton, Providence Bay, Kakabeka Falls, Kenora, Schreiber, Rutherglen, Southampton, Charlottetown, Parry Sound, Barrie.
- Indian Chutes, Westport, Emsdale, Perkins Mills, Beatrice, Stoney Creek, Bruce Mines, Lucknow, Orillia, Renfrew, Hillier, Montreal River, Providence Bay, North Gower, Madoc, Rutherglen, Haliburton, Peterboro, Brome, Montreal, Parry Sound, Ottawa, Gravenhurst, Haileybury, Lindsay, Kingston.
  - 11. Clinton, Hillier, North Gower, Peterboro, Golden, Yarmouth, London, Kingston.
  - 12. Cartwright, Awome, Pense, Muenster, Quebic.
  - 13. Cartwright, Almasippi,
  - 14. Birnam.
- Princeton, Georgetown, Agincourt, Lucknow, Hillier, Haliburton, Fredericton, London, Kingston, Barrie.
  - 16. Golden, Yarmouth.
  - 17. Princeton, Brantford, Birnam, Paris.
  - 18. Dunstable, Lindsay, Port Stanley.
- 19. Princeton, Wattenwyl, Georgetown, Wooler, Emsdale, Bruce Mines, Brantford, Birnam, Lucknow, Clinton, Orillia, Uplands, Madoc, Rutherglen, Paris, Southampton, Gaelph.
  - 20. Westport, Rutherglen, Kingston.
  - 21. Point Clark.
  - 22. Point Clark.
  - 23.
  - 24.
- 25. Georgetown, Emsdale, Bruce Mines, Brantford, Lucknow, Montreal River, Schreiber, Rutherglen, Port Arthur.

- 26. Wooler, Agiacourt, Renfrew, Madoc, Peterboro, Lake Edward, North Gower, Montreal, Haileybury, Kingston.
  - 27. Lakefield, Treherne.
  - 28. Schreiber.
  - 29
  - 30. Port Dover, Lucknow, Clinton.

	Auroras recorded:
1.	
2.	
3.	Bruce Mines II, White Shore Lake III, Rutherglen.
4	Sion IV.
5.	
6.	
7.	
8.	Ranfurly II, White Shore Lake III, Fort Vermilion (2) IV.
9.	Mistassini IV.
10.	Ranfurly IV, Schreiber IV, Muenster IV.
11.	Ranfurly IV, Aitkensville IV, St. Walburg.
12.	Fort St. James.
13.	
14.	
15.	Ranfurly IV, Aitkensville IV, Muenster IV.
16.	Ranfurly II, White Shore Lake III.
17.	Cartwright IV, Hillsdown, Ranfurly III, Aitkensville III, Awenne II, Sjon IV, Muenster II Pambrum II.
18.	
19.	White Shore Lake 111, Cape Magdalen.
20.	
21.	
99.	D. C. Alder W. Str.
25. 24.	Porcupine, Aitkensville IV.
25.	
26.	
27.	
28.	
29.	
30,	
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### FORECASTS FOR SEPTEMBER 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1159. These were divided as follows:—

				Verter	ED.	
	District.	No				
	1715141(1)	Issued	No.	No.	No.	Per-
			Fully.	Partly	Not	centage.
Alberta		. 75	57	15	3	86 0
Saskatchewan		74	5.5	18	1	86.5
Manitoba		75	56	10	9	81 3
Lake Superior		103	69	24	10	78.6
Lower Lake Region		. 105	80	13	12	82 4
Georgian Bay		106	75+	17	10	82 5
Ottawa Valley		87	65	16	6	83 9
Upper St. Lawrence		97	68	13	6	76 S
Lower St. Lawrence		168	73	27	8	80 1
Gulf		109	77	25	7	82 1
Mantime Provinces West		110	83	17	10	83 2
Maritime Provinces Dast		110	80	22	8	82 7
Total		1159	842	227	90	82 4

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto,

Nov. 13th, 1912.

### DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVI.

OCTOBER, 1912

No. 10

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

### TEMPERATURE.

#### BRITISH COLUMBIA.

Throughout the province the mean temperature was lower than normal by about 3°. The highest temperatures of the month occurred about the 1st, 5th, 12th, 13th and 23rd, and in very few instances exceeded 70°, and for the most part did not exceed 65°. The lowest temperatures occurred on the 20th and the 28th, when from 2° to 6° of frost were recorded on the Lower Fraser River and in the Okanagan Valley, while 15° were registered in portions of the Kootenays and 12° to 20° degrees on the Upper Fraser River.

### WESTERN PROVINCES.

In Alberta and Northwestern Saskatchewan the departure from normal temperature was negative and ranged between 2° and 4°. In Eastern Saskatchewan and Manitoba, however, the month was warmer than average, especially in Southeastern Manitoba, where positive departures of 3° were recorded. On the 1st and 2nd and the 13th, 14th and 15th 70° was exceeded throughout the Western Provinces, while 80° was exceeded in the southeastern portions of Saskatchewan and Manitoba during the opening days of the month. Light frost was of frequent occurrence throughout the month, but about the 20th and 31st from 10° to 20° of frost were recorded at many points.

### ONTARIO.

The difference from average temperature was positive and almost uniformly 3°. The first week was characterized by warm weather, temperatures exceeding 80° at some points on the 5th and 6th. The last week was the coldest, the maximum temperatures on the 24th, 25th, 29th and 31st not greatly exceeding 40°. On the 17th and 31st from 5° to 7° of frost were recorded in the Rainy River District, and more than 10° in Nipissing and Algoma, while similar conditions occurred in Northeastern Ontario also. In the Peninsula, however, not more than 4° of frost were registered, and on the 16th only.

### QUEBEC.

In this Province also the normal temperature was exceeded. Along the River St. Lawrence the excess ranged between 2° and 4°, but in the Northwestern Districts between 1° and 2°. As in Ontario the first week was warm, but 76° was the highest temperature registered in any district. On the 9th, 10th, 11th, 29th and 31st minimum temperatures of from 2 to 10° were recorded.

### MARITIME PROVINCES.

In Northern New Brunswick the normal temperature was exceeded by more than 2°, but elsewhere in the Maritime Provinces the difference from average was small, becoming negative in Eastern Nova Scotia. Maximum temperatures ranged as high as 78° on the 6th, 7th and 8th, while the lowest temperature recorded was 20° at New Germany on the 17th.

### PRECIPITATION.

### BRITISH COLUMBIA.

On Vancouver Island and along the Lower Fraser River rain occurred on from 15 to 24 days, but the average was not greatly exceeded at any place, and at several points was not reached. In the Kootenays and the Okanagan Valley it was recorded on from 5 to 10 days, and in most cases the total amount slightly exceeded the average.

### WESTERN PROVINCES.

In Alberta the amount of precipitation did not differ very much from average occurring on from 1 to 8 days. During the first 11 days it consisted altogether of rain, but in the latter part of the month of both rain and snow. In Saskatchewan the precipitation was either average or below and during the latter half of the month consisted altogether of snow in the northern portion of the Province. In Manitoba rain occurred on the 5th, 6th, 9th, 12th and 18th and snow on the 8th, 9th, 17th and 28th, while the total amount was in nearly all instances considerably less than average.

### ONTARIO.

In the East Central counties of Ontario and locally in the Ottawa Valley precipitation exceeded the average, but elsewhere there were large deficiencies. Rain occurred on about 10 days and was well distributed throughout the month. There were local snow flurries on the last day.

### QUEBEC

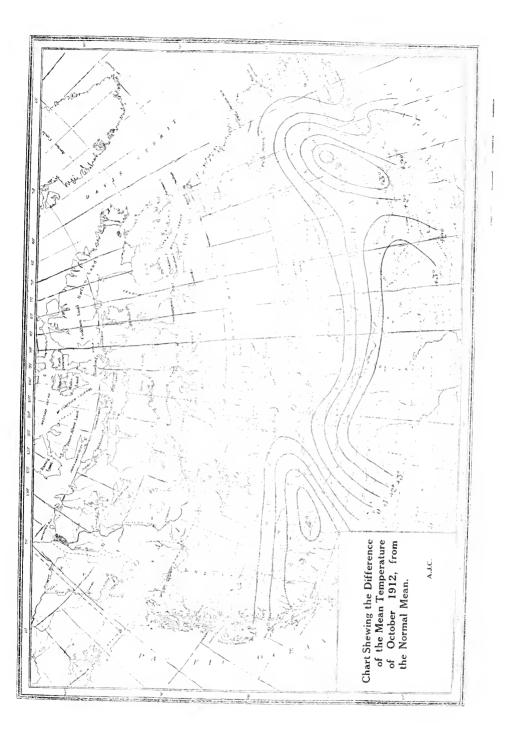
Rain occurred on from 8 to 20 days along the St. Lawrence River and in Southwestern Quebec, while in Northern Quebec rain occurred on 12 days and snow from 2 to 4 days. In nearly all the districts there was a considerable excess over average.

### MARITIME PROVINCES.

Although there were local excesses in New Brunswick there was a large and general deficiency of precipitation in the Maritime Provinces. On the 1st and 16th thunderstorms occurred in many places and locally were attended by very heavy rainfall.

### ATMOSPHERIC PRESSURE.

In southwestern districts of the Maritime Provinces, and also along the shores of Lake Erie, the mean barometric pressure for October was above the average, while in other parts of Canada, the mean value, as evidenced by the records at the Telegraph Reporting Stations, was subnormal. Departures from average were greatest from Saskatchewan to the Thunder Bay District of Ontario being generally more than 0.05 of an inch. The extremes of differences from normal were —0.08 of an inch at Prince Albert, Sask., and  $\pm$ 0.03 of an inch at Halifax, N.S.



### HIGH AREAS.

Ten areas of high pressure were charted. Two first appeared to the northward of the Western Provinces, three in British Columbia, four in the Pacific States and one in the vicinity of the South Atlantic States. The general course of the areas was over or close to the Great Lakes, thence to the Atlantic.

The areas were in nearly all instances of feeble energy.

### LOW AREAS.

Sixteen areas of low pressure were charted. Five first appeared over or in the vicinity of Alaska, one in Northern and one in Southern British Columbia respectively, one in Alberta, one in the North Pacific States, five in the neighbourhood of New Mexico, one on the coast of Southern Texas and one in the Ottawa Valley. The general course of the areas from the northwestern portion of the continent was far to the northward and off the coast of Labrador, while those from the southwestern portion passed over the Great Lakes. The area which appeared on the Texas coast was apparently of tropical origin and very energetic at first, but it afterwards quickly lost its intensity and ultimately completely dispersed over the States bordering on the Gulf of Mexico.

### WINDS, OCTOBER, 1912

PROVI	NCES AND STATIONS	Total Mileage	Greatest Mileage in 24 hours	Greatest Mileage in one hour.	Number of days of Gales.	Number of days of Strong Winds.	Number of days of Fresh Winds.	General Direction
	BRITISH COLUMBIA							
		 6030 6621	552 413	39 32	3 1	r C	6	E.
	Auserta.							
Edmonton		3 <b>5</b> 90	227	22			12	2.11
	SASKATCHEWAN							
Qu'Appelle		8631	425	28			12	ST. & 5 T.
	MANITOBA							
The Pas Vinsipeg		6271 £563	377 681	28 46	2		17	W S & SW
	ONTABIO.							
Port Arthur Southampton Voodstock Foronto		7417 10143 4805 9471	39 <sub>0</sub> 531 315 545	30 36 20 37	1 4 3	.5 14 2 11	25 6 7 19	NW SW SW & NW
	OFERFC							
Juebec Father Point Anticosti S.W		1637 I 12109 12849	1022 745 830	53 38 44	2 7 4		22 i6 10	NE. & SW SW.
М	ARITIME PROVINCES							511.
St. John Pt. Lepreaux Yarmouth Hahfax Sable Island		 6388 9757 13495 9293 9762 14153 13517 5973	420 659 1189 553 893 862 808	28 41 57 34 43  53 27	2 13 4 6	14 13 10 10	14 11 4 21 15	NW. NW. NW. N. W SW. & NW SW.

### FREE AIR DATA

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43' 8' N., Long. 80-47 W.) on October 4th, 1912.

Instrument—Dines Meteorograph, Beginning of Ascent—La.m., G.M.T. Barometer—728 mm. Temperature=13 0 C.

Direction of flight at Beginning—East in strong wind

Fell—530 km. distant N.70°E. Maximum Height—11.8 km. Minimum Temperature=—54.0 C.

Height in km, above S.L.	Pressure in mm.	Temperature in Cen	tigrade degrees
G.L. · .3	728	13.0	
.5	708	11.0	10.5
. 66	694	10.5	9.0
\$10)	672	10.5	8.0
1 00	666	10.0	7.5
1.50	627	8.0	5.0
2.00	590	5.5	3.0
2.50	553	2.0	.5
3.00	520	- 1 0	- 2.5
3.52	489	- 4.5	- 5.5
4.00	458	- 7.5	- 9.5
4.50	428	-10.0	-12.5
5.00	401	-12.5	-15.5
5.50	375	-15.0	-20.0
6,00	352	-17.5	-23.5
6,50	328	-20.5	-26.5
7 00	307	-24.5	-30.0
7.50	287	-27.5	-33.0
8.00	267	-31.5	-36.5
8.50	248	. —36.0	-40.5
9,00	230	-41.5	-44.5
9.50	213	-45.5	-48.5
10.00	198	49.0	50.5
10.30	190	48. <b>5</b>	-50.0
10.80	175	-49.5	-51.0
11,50	157	-54.0	
11.80	152	-51.0	

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, OCTOBER, 1912.

							Teur	ERATUR	E			1,42	CIFITAFI	on,	re.			. ,	
STATION.	Latitude N.	Longstude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's Oliservations	Highest	Date.	Lowest	Date	Mean daily range	Annual	Difference from average.	Heaviest fall in month,	Days with .01 or more	No. of fair days.	No. of auroras	No. of thunderstorms.	No. of fogs.
BRITISH COLUMBIA-																_		-	-
S. Vancouver Island	. ,	0 /																	
Alberni (Beaver Creek) . Clayoquot	49 15 49 11	124 49 125 55	300 - 27	$\frac{47}{49} \frac{0}{6}$	- 4 0 - 1 5	17 13	76 0 70 0	6 13	24 0 35 0	20 19	12.7	6 % 13 79	+1 15 +0 04	1 98 1 77 1 83	19 21	12 10			
Cloose Cowichan (Tzoubalem) . Nanaimo . Nanoose Bay. Salt Spring Island . Sooke Victoria	48 25 149 10 40 17 48 50 48 41 48 21	123 42 123 37 124 12 123 20 123 44 123 19	176 125 130 25 85	48 1 47 4 46 3 47 0 47 1 46 9 48 6	- 2 7 - 2 7 - 2 9	6 12 1 3 2 20	60 0 63 2 61 6 65 0 62 0 64 0 63 2	3-13 2 5 15-16 23 14 2-5	36 0 27 5 29 1 30 0 33 0 30 0 33 0	18-19 28 28-28 20-28 20 20 20	12 7 10 3 17 8 13 5 15 6 11 5 15 9 13 2	6 % 13 79 9 61 3 39 2 50 2 49 4 36 3 10 2 33	-0 45 -0 45 - +0 07	1 83 1 35 0 48 0 78 1 61 0 60 0 67	16 12 14 16 16 10	15 19 17 15 15 21	1		2
N. Vancouver Island													,		17				
Holberg Swanson Bay Triangle Island. Winter Harbour (Quatsino).	50 39 50 37 50 52 150 32	128 18 126 53 129 5 127 40	680	47 6 46 3 47 4 46 7	=	4 4 1 16	62 8 55 0 56 0 61 0	$23 - 26 \\ 2 \\ 15$	37 5 25 0 38 0 33 0	20 18 23 21-23 21 28	7 2 6 7 6 5 1 13 6	17 84 16 22 11 26 13 55	- + 6 3s	2 60 2 06 2 28 1 65	21 24 22 22	10 7 9 9	::		
Lower Fraser River	49 14	121 31	52	47.8	- 3 1	22	64-0	12	30.0	20 30	19 3	7 27	+1.50	. 20					
Acadesis Chilliwack Hope Lavlaer North Nicomen Pomber ton Hatchery Ruskin (Strave Falls) Steveston(Garry Point)	49 10 19 23 49 05 49 13 49 12 50 20 19 16 49 21 49 17	121 57 121 57 121 25 123 4 122 54 122 2 122 33 122 23 123 17 123 5	330 59 125	47 5 48 9 43 4 50 5 47 7 47 8 43 5 46 2 48 2	$\begin{array}{r} -31 \\ -35 \\ +15 \\ -225 \\ -25 \\ -15 \end{array}$	10 3 10 25 10 5 3 17 12	65 0 64 0 65 0 63 0 63 0 61 0 58 0 61 0	6-13 2 1 6-13 13 5 11 1-15 14	26 0 27 0 28 0 32 0 30 0 23 0 31 8 30 0 33 0	5-85 5-85 5-85 5-85	15 0 15 4 17 1 13 1 15 1 14 7 13 3 13 6 11 9	7 27 6 70 6 58 4 15 6 00 6 94 3 36 7 66 4 17 4 64	+1 30 -0 00 +0 38 -0 53 -1 10	1 30 0 93 1 16 0 50 1 04 1 07 0 61 1 27 0 86 0 66	18 20 16 13 18 19 11 16 15 20	13 11 15 18 13 12 20 15 16		i i :: :: i	1 5  2 2
Upper Fraser River																			1
Babine Lnke Barkerville Chilcotin (Big Creek) Fort George Fort St James (Stuarts Lake)	55 38 53 02 51 40	126 26 121 35 123 0	4150 3100 2280	37 6 33 6 35 6 37 6 36 8	-31 -31 +05	4 24 9 1	62.0 56.0 65.0 62.0	13 13 6 6	18 0 13 0 10 0 9 0	20 20 20 20 29	18 8 15 2 21 5 21 0 20 3 27 6	1 50 3 21 1 13 1 13 0 75	+03	1 50 0 90 0 38 0 38 0 30	1 9 8 9	30 22 23 22 25		::	::
Hydraulie	52 59	122 30	1700	42 8 40 9	$-\overline{n}$ 4	17	68.0 67.0	13-14 16	15 0 18 0	29-30 29	20.0	1 6I 1 31	+0.14	0 45	8 5	25 23 26		i	
Okanayan Fulley																			
Hedley Hedley (Nickel Plate) Kerenceos Kelowna (Okanngan Mission) Princeton Princeton Summerland Vernon (Coldstream Runch)	49 35 49 15 49 29 40 29 49 57 50 14	120 10 119 29 119 35 120 29 119 0 119 15	1771 1200 1650 1100 1246	12 7 30 6 45 8 42 9 44 7 43 3 42 6	$\begin{array}{c} - \\ -2 \\ -2 \\ - \\ -2 \\ -2 \\ 8 \end{array}$	7 8 13 6 18 5 19	57 0 55 0 63 5 64 0 68 6 71 0 67 0	15 14 2 2-15 15 3 15 2	25 0 16 0 25 5 27 8 26 0 26 0 23 0	20-23 20 24 5-22 20-21 - 21 20-31	18 3 16 9 15 6 17 1 17 7 15 4 27 8	0 83 1 65 0 57 0 91 1 00 1 20 1 33 1 20	+0 08 +0 11	0 17 0 80 0 28 0 40 0 42 0 37 0 55 0 43	9 5 6 11 5 5	22 25 26 25 20 26 26 26 26 21			··· ··· ··· ··· ··· ··· ··· ··· ··· ··
West Kootenuy																			
Crawford Bay. Creston. Grand Forks. Grenwood. Howser Kaslo. Nakusp. Needles. Nolson. Rossland.	49 45 49 2 49 52 49 20 49 5	116 45 118 27 117 0  117 21 117 48	2000 1752 1760 3400	41 6 40 8 44 1 39 8 42 7 40 2 40 4	- 2 4	1 1 2 1 1 1 1 1 1 1 8	60 0 68 0 68 0 58 0 57.9 68 0	7 2 15 12-18   15 16 1 1 2 2	25 0 21 0 24 0 15 0 25 0 21 7 23 5 23 0 23 5	20-30 30 18 31 27 31 31 31 31	16 9 19 3 19 7 30 0 13 2 15 1 11 3	1 71 1 18 3 75 0 71 1 93 2 97 2 31 2 80 3 07		0.31 0.45 0.28 0.20 0.42 0.86 0.55	11 8 10 5 14 10 17	20 23 21 26 17 21 14 		1 1 1 1 1	::
Eust Kootenay	71. 0	,		11.				-	217 17						10	-			•
Akamina Crnnbrook Tobacco Plains (Elko). Wilmer	49 30 49 1 50 34	115 50 115 5 116 14	2684	37 5 42 4 37 9	2 2	8 16 3	66 6 66 1 59 0	16 1-16 4	10 0 25 0 15 0	31 21-27 31	22 6   15 7   16 7	1 14 2 56 0 74	+ <u>1</u> 47	0 38 0 44 0 36	5 13 5	26 18 26	::	i 1	1
Thompson River																			
Ashcroft Enderby Kamloops Nicola Lake Pemberton Meudows Salmon Arm Salmon Arm (Exp. Farm). Tranquille.	50 32 50 41 50 9 50 42 50 41	119 7 120 29 120 39 119 35 120 29	1180 1245 2120 1152	44 6 42 9 45 9 41 6 45 3 43 0 43 2	- 2 6 - 2 6 - 2 6	1 10 20 17 1 10 1 4	69 0 67 0 71 0 65 0 65 0 67 0 65 0	2 2 16 1 2-14 3 2	24 0 23 6 21 8 23 0 17 0 22 0 23 0 25 0	23 28-30 28 27-31 20 31 30 21	20-3 20-4 16-6 18-6 20-8 18-0 19-4	0.74 1.39 0.66 1.12 3.48 1.48 0.53 0.18	-0 32 +0 13 +0 32 	0 39 0 30 0 18 0 48 0 67 0 31 0 13 0 11	5 12 8 6 15 10 7 3	26 19 23 25 16 21 21 28		i	2
North Columbia River																		1	
Golden - Glacier Revelstoke - Glacier	$\begin{bmatrix} 51 & 16 \\ 51 & 14 \\ 51 & 0 \end{bmatrix}$	116 55 117 29 118 6	2550 4072 1476	37.8 33.7 41.3	-2.0 $-3.7$ $-2.1$	10 9 13	58 0 52 0 £8 0	1-2 1 6 (	13 0 14 0 20 5	30-31 31	18 2 9 6 16 9	0.73 5.31 1.96	$-0.58 \\ +1.90 \\ +0.74$	$\begin{array}{c} 0.23 \\ 0.96 \\ 1.12 \end{array}$	6 16 21	25 15 10	::		. 3

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, OCTOBER, 1912.

								-	ГЕМРІ	ERATUR	к			PRE	IPITAT	коз	ě			
STATION		Latutude N.		Longitude W.	Elevation above sea level, in feet.	Mean	Difference from average	Yr's Observations.	Highest	Date	Lowest	Date	Mean daily range	Amount.	Difference from average.	Heaviest fall in month.	Days with 0.1 or more	No. of fair days.	No. of auroras.	No. of thunderstorms
BRITISH COLUMBIA Con											1								_	_
North Coast		,	,	• /																
Bella Coola Kbtada River Prince Rupert Stewart	á	2 4	40 18 -	126 54 130 18 130 1	150 170 215	44 2 44 1 48 0 42 9	-1 2 =	13 1 5	63 0 56 0 68 0 60 0	6-9 6-13 13 3	27.6 29.0 29.0 27.0	20-31 19 19 19	17 2 8 9 9 4 10 1	5.04 10 66 12.41 8 78	-1 06 -	2 24 1 52 1 54 1 45	13 26 5 18	18 5 26 13		
ween Charlotte Islands																				
lkeda Bay Massett	. 5		17 58	$\begin{array}{ccc} 131 & 7 \\ 132 & 9 \end{array}$	5 30 ,	49 9 45 9	-08	14	60 0 58 0	1-5 2	38 0 02 0	18 19	6 4	7 10 6 48	+0 97	0.75	23 27	8		::
ukon Boundary																				
Atlin	, 5	9	35	133 38	2240	37 5		6	49 5	5	22 0	21	3.6	1.25	_	0.60	13	18		
пкоч —																				
Careross		0	11	134 34 139 29	2171 1200													1	,	
Dawson fackenzib		4	•	1.55 28	12110															
Ft Resolution		1	0	113 0	800	34 3	_	_	55 0	1	13.0	31	27 6	0.72		0.39	7	24		
LBERTA			"	110	000	01.5			1 55 0	•	10.0		,	0.72		0.58				
i. Saskatchewan River																				1
Cempsie						36 6		1	69 1	14	8.0	31	28.2	0.92	_	0.52	4	27	3	:
Daysland Edmonton Endung	5	3	52 33 0	112 17 113 30 112 0 110 43	2158 2795	36 0 41 3 36 9	- 0.8	1.1	65 0 74 0 70.0	14 3	8 0 15 0 15 0 16 7	31 31 25	2S 2 17 3 21.8 21 1	0 32 0.73 0 48	0_03	0.13 0.32 0.15	5 9 5	26 22 26	::	::
Gilt Edge Helkirk (Emsburg)	5		0 59 17	112 10		37 7		3	66 0	1-3	17 5	21	18 2	1 21		6 60	5	26	i	:
Loveland Pakan (Victoria)	- 1	i2 i4	30	111 59 112 31		36 6		10 7	65 0	13	17 G 10 9 14 0	21	21 4 22.7	0 45	=======================================	0 23	2 2	29 29		
Ranfurly (Waitefield) Sion		3	29	111 38	2000	37.9 36.8		7	69 8 68 0	14	14 0 8 0	21-31 18	22.7 25 0	1 02 0 98	=	0.70	5 2 2 7 4	24 27	5	i
Wetaskiwin		52	58	113 23	2480															i
he Red Deer River																1				
Alix Delia	-	51	24 38	113 10 112 25		36 4 39 4		. 8	71 0 68 0	14 13	9 0 17 5 18 0	31 31	24 6 22 4 22 9 28.7 21 8	1.00 2.72 1.91	_	9.34 0 43 0 16	8 3	23 28	1::	
Didabury Harmatten		51	40 45 14	114 8 114 23		40 9 37 2 39 6	- 2.5	10	72 0 70 0	14 14-15	18 0 8 0 11 0	30 31	22 9 28.7	1 91 1 09 1 18	=	0.70	8 3 4 5 5	28 27 25 26 25	::	::
Hilledown Lacombe	111	52 52	14 58	114 8 114 23 113 29 113 44	3500 2806	40 9 37 2 39 6 39 3		5 8 5	72 0 70 0 70 0 70 6	13 14	11 0 13 8	31 31 31	21 8 25.3	1 18 1 56	_	0.70 0.37 0.70	5			::
Oyen - Red Deer		5.2	16	113 49	2783 2806										1	1	1::	::		::
Threehills Creek		51	30	113 11			1						- "						1	
The Bow River																				
Brooks		50	34	111 54 114 2		43.9		1	72.0 70.0	ı	13.0	31	26 2 22 3	0.37	-	0 22	2 7	29 24		
Calgary Cardston		51 49	12	114 2 113 18	3389	40 0	- 2.1	28	70 0	3	15 0	21~22	22 3	1 09	+0 60	0.56				
Furman (Playle Creek) Gleichen		50	59	112 54	2952	35 4		9	72 0	3	14 0	31	23.3	2 50		2 50	i	30		
High River Lawrence (Parkland)		50 50	35 16	112 54 113 53 113 26	3394	38 4		5	64.0	1-4	20 0	1	23 3	1 95		0 50	3	28		1
Lethbridge (Exp. Farm.)		49 49	42 43 44 1	112 51 112 51 113 24	2961	42 3	1	5	72 2	1	14 2 11 0	30	26 1	1.07	-	0.56	8	23		1::
Macleod Medicine Hat		49 50	44	110 37	3128 2161	42 6 45 2	$\begin{array}{c c}  & 2 & 1 \\  & 0 & 9 \\  & 4 & 5 \end{array}$	16 28 5 17	73.5	1 15	20_0	30 31	19 6 23 8 20 6 22 9	0 50 0.88	-0 83 +0 36	0 17 0 36	5	. 26	1::	
Pracher Creek Strathmore		49 50	6	114 4 112 34	3750	42 3 42 6 45 2 39 3 39 2 42 4	- 4 5		70.0	1 3 2	11.0 12.0	29 29 29	26 1 19 6 23 8 20 6 22 9 25 2	1 50 1.10	_	0 62	3	26 26 28 27		
Sundial					1	+2 4	_	2	74 0	2	13 0	29	25 2	0.75	_	0.31	4	27	1	
Rocky Mountains														1						
Banff . Blairmore		51 49	10 40	115 34 114 30	4542 4225	35.3	- 4 1	1 16	58 0		4 9	30	16 9	1.82	+0.67	0.29	11	20		1
4thabasca River		+ U	10	114 30	1240		-				ī.		1.				* *		٠.,	
Athabasca Landing		54	43	113 17	1650	38 7		. 0	75.0	15	9.0	25	24.7	0.74	_	0.43		26		-
Lunmord . Pembina		54 54	33	114 19 114 0	1000	34 4	_	9 3 5	75 0 70 0 87 0	15 15 10	5 n 8 5	30	24 7 27 3 20 1	1 06	=	0.43 0.50 0.30	5 4 2	27		1::
Peace River				0		1		.,		10	0.0	1 2		1 19	_	. 30	ľ	1		1
Beaver Lodge		55	20	119 24		39-5			69 0	15	5.0	31	23 0	0 :4	_	0.10	5	25		
Dunvegan Fort Vermilion Fort Vermilion (2)		55 58	56 27	119 24 118 35 116 3	1305												10		,	
Peace River Crossing		58	15			34 C	_	- 6	66 0	16	9 0	29-31	23 1 24 4	0 60	-	0.40	5	20	3	-
Spirit River		55	40	117 15 118 47	2400	37		b	- VO 1	. 2		20-31		1 0 85		7 45	3		1	1

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, OCTOBER, 1912.

			-	-				Темры	RATURE				Pag	CIPITATIO	on.	more.			ne su	
STATION.	Latitude N.		Longitude W.	Elevation above sea level, in feet.	Mean	Difference from average.	Yr's observations.	Highest	Date	Lowest.	Date	Mean daily range.	Anicant	Difference from average.	Heaviest fall in month.	Days with .01 or m	No. of fair days	No. of Auroras.	No. of thunderstorms	No of face.
Saskatchewan-																				
$Qu'Appelle\ River$	۰	,	0 /																	
Browabill (Grenfell) Browabie Crescent Lake Estevan Fort Qu'Appelle Hubbard Drumague) Humbold Imperial Indias Head Katnseck. Manor. Moose Jan Muenster (St. Peter's Mon.) Pilger Pense (Gatesgarth) Qu'Appelle Qu'ill Lake Regima Strassburg. Yarbo (Farifield)	50 50 49 51 52 51 50 50 52 52 50 52 52 50 52 50 52 50 50 52 50 50 50 50 50 50 50 50 50 50 50 50 50	21 0 0 25 20 30 4 27	102 53 106 0 102 25 103 24 103 24 105 23 103 40 105 23 103 40 105 0 105	1957 1658 1858 1924 2064 1759 1884 1879 2115 1600 1885	41 1 39 5 40.7 42.0 38 1 37.3 40 3 39 9 40 8 43 2 40 0 38 5 38 8 41 4 41 5 37 6 40 6	$\begin{array}{c} +\ 3\ 2\\ -\ 0\ 3\\ -\ 1\ 5\\ -\ \\ -\ \\ +\ 0\ 2\\ -\ \\ +\ 0\ 5\\ +\ 2\ 5\\ +\ 2\ 1\\ \end{array}$	18 8 11 5 7 1 23  17 11 7 11 24 28 26 	75 0 72 2 73 5 85 0 74 0 79 0 80 0 79 0 85 0 79 0 85 0 79 0 88 0 79 0 88 0 79 0 88 0 79 0 89 0 79 0 80 0 79 0 80 0 79 0 80 0 79 0 80 0 79 0 80 0 80 0 79 0 80 0	1 16 1 1 2 2 2 1 1 1 1 1 1 1 1 1 1 2 1	22 0 16 4 18 0 17 9 22 0 12 0 19 0 24 0 17 6 17 0 18 0 17 0 18 0 12 0 16 0 17 0 18 0 17 0 18 0 17 0 18 0 17 0 18 0 17 0 18 0 17 0 18 0 17 0 18 0	31 31 19 26 21 22 6 15-30 20-31 21 21 21 25 31 31 31 31 31 31 31 31 31 31	22 3 24 2 20 7 24 6 19 2 23 2 21 6 21 6 21 8 20 2 21 6 21 5 18 0 21 5 24 7	0 14 0 35 0 86 0 27 0 50 0 65 0 52 0 26 0 47 0 33 6 18 0 20 0 45 1 67 0 29	-0.58 -0.32 -0.58 -0.666 -0.666 -0.54 -0.54	0 14 0 11 0 20 0 40 0 52 0 15 0 29 0 14 0 18 0 10 9 15 0 24 0 15 0 10 9 15 0 24 0 15 0 10	2 : 6 3 6 6 2 3 1 1 5 5 4 1 1 1 2 7 7 5 4 · · · · · · · · · · · · · · · · · ·	25 25 28 25 29 28 20 26 27 26 27 27 24 24 24 27 27	3		
Yorkton	49 51	49 11	104 <b>9</b> 102 <b>2</b> 9		40 6 40 5	Ξ	3	80 0 75 0	2	10 0 20 0	36	22 3	0.24	-	0 13 0 24	2	29			
S, Saskatchewan River								<b>*</b> 0			2.1	05.0		A 011	0.45	6	20			
Chaplin Eest End (Divide) Kelvinhurst (Nashlyn) Kindersley Larchmount (Glenbryan) Oliver Rathmullen Swift Current	49 49	26 31 21 54 46 20 20	106 39 108 49 109 29 107 27 108 10 108 57 107 45	2202	40 1 39 7 39 9 38 0  38 7 43 3	- 0 8 - - - + 0.3	27 4 2 - - - - - - - - - - - - - - - - - -	78 0 70 4 74 0 75 0	1 3 2	10 0 13 0 9 0 1 0 11 0 21 0	31 21 21 25 31 6	25 9 23 5 20 2 26 5 28 0 21 0	0 61 1 27 0 22 0 28 0 45 0 74	-0 09	0 71 6.22 0 28	6 4 1 1	25 27 30 30 	.		1
N. Saskatchewan River																				
Battleford Lloydminster Luseland Onion Lake Prince (Meota) Scott (Ex. Farm) St. Walburg Wasca.	53 51 51	41 18 5 52 0 59	108 20 110 0 109 34 109 59 108 20 109 30	1620	43 8 38 2 38 6 37 6 39 1 38 2	- 4 0 7 - 0 7	22 8 2 5 2 1 5	75 0 69 0 73 0 73 0 75 0 69 5 70 0	3 15 1	22 0 15 0 16 0 14 0 14 2 	29-31 31 25 31 	20 5 20 2 23 5 21 3 23 6 	0 55 0 23 0 33 0 34 0 15 0 30 0 82	+0 11	0 40 0 23 0 30 0 23 0 23 0 05 0 30 0 60	4 3 4 3 1 2	27 28 27 28 30 28 30 29	1		2
The Saskatchewan Forks																				1
Chagoness (Star City) Duck Lake Melfort Prince Albert Rosthern Saskatoon	52 52 52 53 52 52	32 54 47 10 40 15	104 13 106 20 104 30 106 0 106 20 106 30	1432 1657 1571	38 0 39 0 38 5 39 9	- 1 4 + 0 2 - 6 5	- 1	68 0 70 0 67 7 71 5	1 1-3 1	17 0 21 0 17.7 21 0	31 21 21 25	17 5 18 2 20 7 20 9	0 29 0 56 0 29 0 27	-0.30 -0.45	0.15	4 2 2 3	27 29 29 28	. 1		
Lower Saskatchewan River																				
Cumberland House Lost River					33 4		2	69 0	· · · · · · · · · · · · · · · · · · ·	22.0	26	19,0	0 45		0 42	2	$\dot{29}$	:		
Manitora-																				
Qu' Appelle and Assini- boine Riters Aweme (St. Albans) Boissevaire. Brandon. Carberry. Cartnan River. Hillview Minnedosa Ninette. Ninga Pierson Pierson Pierson Protrage la Prairie Portage la Prairie Virden.	50 49 49 49 49 50 49 49 49 49 49 49	56 59 	98 0 69 3 100 33 99 50 99 38 99 51 101 5 100 58 68 17 78 17 101 20		42 9 43 7 38 5 42 1 40 6 40 9 46 1 42 2 44 0 44 0 40 9 41 5 43 4 43 0	+ 1.8 + 0.2 + 1.8 + 5.6 + 1.6	1 25 8 27 29 1 2 5 20 3 3	80 5 79 0 75 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	4554 	17 5 18 0 16 0	22 31 22 30 25 22 22 31 30 30 25 30 25 31 22 31 30 30 30 30 30 30 30 30 30 30 30 30 30	21 8 22 6 22 4 21 7 21 6 20 6 21 6 21 6 21 6	0 67 1 23 0 24 0 40 0 43 0 27 0 70 0 82 0 26 0 10 1 23	-0.42 -0.85 -0.78 -0.78	0 43 0 21 0 35 0 35 0 35 0 35 0 15 0 36 0 16 0 08	4 4 2 3 3 4 2 2 4 2 3 6	29 27 29 28	1	3	1
The Red River Almasippi Morden Oak Bank Stony Mountain Winnipeg	49 49 49 50 49	11 57 40	98 6 96 42 97 14	978 800	43 2 44 4 41.8 42.2 43.8	+ 0 : - 1 : - 1 : + 2	8 17 3 30	79 0 77 0 73 3 74 9	5 4 17 4	18 0 19 0 19 0 13 0 17 1	22-30 30 22 30 30	21.7 15.2 1.29.1	1 77 1 21 1 97		_	4	26 27 27 27		1	1

\* Stations not furnished with Registering Thermometers

								Генген	ATURE.				PRE	CIPITATI	0N.	more.			18	
STATION	> cl	Latitude 14.	Longitude W.	Elevation above sea level, in feet	Weam.	Difference from average.	Yr's observations	Ilighest	Date.	Lowest	Date.	Меза dady ганде	Amount.	Difference from average.	Heaviest fall in month.	Days with .01 or me	No of fair days	No. of auroras.	No. of thunderstorms	No. of fogs.
Manitoby Continued								_								-	_	_	_	
Dauphin Lake and River Dauphin Moose Horn Bay) Adkens ville) Berens River	51 51 72	8 15 18	99 33 97 23	957 746	42 6 42 5 42 8	_	6 3 5	76 0 70 0 72 0	2-5 5	22 0 21 0 20 0	22 26 29-31	20 7 16 5 22 0	 0 86 2 50	_	0 35 0 75	5 5	26 26	4		
Lake Winnipegosis Swan River Le Pas	52 53	6 49	101 15 101 15	1112 860	35-6		2	65 ti	1	17.4	30	13.8	6.52		0.30	i	27		٠.	
Untario-																				
The Lake Superior Districts																				
Ratiny River Kenora	49	44	91.32	1102	38 1	— 3 <b>4</b>	11	65.0	2	25 0	17-31	15.7	3 12		2 01	3	28			
Thunder Bay Kakabeka Falls Port Arthur Schreiber	18 18 18	29 27 50	89 26 89 12 87 15	912 611 933	11.7 43.7 41.1	- + 2 1 + 1 1	4 30 13	83 t 74 0 68 2	5 6 6	13 0 21 0 20 2	23 23 23	2d 6 18 3 19 7	0 93 1 20 2 40	- <u>1</u> 33	0 43 9 37 0 71	11 11 8	20 20 23		2 1	
Alpoma Brace Mines Copper Cliff Porcupine Pravidence Bay White River	16 45 45 48	18 30 29 40 35	83 55 80 59 81 18 82 14 85 16	595 - 1252	47 8 45 6 42 0 44 5	+ 2 2	11 5 —	79 ti 75 ti 83 ti 69 ti	5 6	21 0 27 5 23 5 22 0	24 15 21 - 28	20 6 19 0 20 2 20 7	2 (0 1 77 2 75 1 01	_1 29	1 06 0 73 9 96 9 65	6 8 13 2	25 23 18 29			
Nipissing Cochrane, Hadesbury Montreal River	49 17 17	2 29 8	81 0 79 39 79 29	946 687	41 3 45 8 46 4	- - 3 3	1 18 2	79 S 77 2 76 0	6 6 6	22 () 24 2 19 ()	16 16 16	18 0 17 5 19 9	1 81 3 03 4 01	=	0 41 1 16 1 04	11 13 7	20 18 24	i		2
Upper Ottawa River Rutherglen (Lake Talon) Stonechif (Rockhife)	46	15	74 48 78 6	557	44 6 45 h	+ 4 3 + 2 5	18 25	75 n 78 0	6	20.0 22.0	16 11	18 7 21 3	2 19 2 67	-0 f6 +0 26	0 55 0 98	12 16	19 15	.,	4	. 4
Upper St. Lawrence and Lower Ottawa Rivers Almonte Bloomfield Hilber Kingston Montagno Vorth Gower Ottawa Renfrew	45 14 44 45 45 45	12 59 13 56 8 26 26	76 13 77 21 76 29 75 57 75 43 75 42 76 39	3'-0   2h0   2\5	48 1 47 8 57 2 50 7 48 4 48 7 48 4	+ 0 8 + 2 3 + 2 1 + 2 1 + 4 5	- 1	71 7 69 0 73 0 68 6 75 0	5-6 5-12 7 4 5 -6 5	21 0 27 0 34 0 25 5 24 0 	16 16 8 16 16 26	19 4 18 6 13 2 15 2 20 3 	2 55 2 5 1 3 7 1 2 98 2 59 2 66 2 41 3 20	+0 36	0.85 1.02 0.67	10 7 11 12 9 5 13	21 24 20 19 22 26 18 20		1 :: :	1
Georgian Bay Counties Bartine Beatine Reatine Collingwood Gravenhurst Huntsville Mulland Markdale Ordin Own Sound Prov. Sound Ronville Shellurine Uplands	14 15 11 11 15 15 15 15 15	23 8 38 31 54 19 44 37 34 19 15 48	79 41 79 20 79 40 80 2 79 20 79 8 79 53 79 24 80 55 80 0 78 64 79 25	750 775 597 635 1038	46 1 50 8 47 6 54 7 6 54 7 2 48 2 48 2 48 2	- 2 7	23 18 6 5 1 18	75 0 81 0 82 0 76 0 80 0 78 0 78 0 73 0	6 6 6 6 6 6	22 0 25 0 30 0 22 0 40 6 22 0 26 0 26 0	16 16 16 16 23-34 16 16 16	20 1 22 3 14 5 17 7 15 7 18 4 17 7	3 68 2 52 2 31 5 05 2 21 3 80 3 01	+0 51	0.49 	10 12 12 13 12 11 15	19 19  18 19 20		2	
Lake Huron Counties Brimin Chuton Goderich Lucknow, "North Bruce Point Chark "Sar ina." Southampton	13 13 13 13 14 14 14 14	2 32 45 56 23 5 59 30	81 55 81 37 81 41 81 30 81 25 81 44 82 24 81 21	600 - 908 595 586 656	51 3 48 1 49 8 48 1 49 3	+ 1 8 + 1 6 + 1 1 + 6 7 + 1 7	22 26 24	75 4 75 0 73 5 75 1 73 0	6   7   7   6   5   5	30 0 29 0 32 5 25 5 37 0	16 18 13 16 8-31	16 1 17 4 14 5 19 4	2 85 1 97 2 68 1 70 1 34	-2 29	0 49 0 36 0 44 0 49	9 12 13 14 10	22 19 18 17 21		2 2	
Lakes St. Clair & Erie	.,	/	1				.,.,	11. 2			.,									
Niagara Peninsula Chatham Cottum Grimsby Peles Island Port Burwell Port Dover Port Stanley 8t. Catharanes Stoney Creek Wallawelung Welland	42 43 43 42 42 42 43 43 41 42 42 42 42 42 42 42 42 42 42 42 43 43 44 42 42 42 42 42 42 42 42 42 42 42 42	23 7 13 50 39 27 40 9 13 35	82 12 82 45 79 36 82 35 80 55 80 13 81 12 79 17 79 45 82 24 79 17	505 606 585 592 635 592 347 292	52 3 51 8 53 0 51 9 50 9 49 8 50 8	+ 1 4 + 1 0 - 2 2 + 0 6 + 2 0 + 2 1 + 1 2	30 9	81 0 80 0 79.0 72 0 68 5 70 5 68 8 77 0 71 0 71 0	6 13 6 10 6-11 6 6	30 0 28 0 32 0 34 9 23 0 29 0 28 1 33 0 27 0 30 0	31 18-19 15 25 46 15 16 16 18-21 15	21 4 28 8 18 9 15 6 15 2 15 8 17 1 18 1 28 7 16 4	3 46 2 18 3 17 3 22 3 26 3 03 2 55 2 61 0 88 3 90	-0 87	0 75 0 97 1 56 0 95 0 59 0 51 0 83 0 26	10 7 11 4 6 14 14 18 8 9	21 24 20 27 25 17 17 17 23 23 23 22		i	
Windham Centre. Windsor	12	20	83 4	625	51.6	+ 0 3		7 50	7 :	33 0	31	17.0	30.1		010.91	iċ	21		::	:

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF ANADA, OCTOBER

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			n <sub>o</sub>				TFM	PFRATU —	R1			Pic	CIPITA	rion	ore			ě	
STATION	Intitude N	Longitude W.	Elevation above a level in feet.	Menn	Difference from	Yr's Observations	Highest.	Date	Lowest,	l Date	Mean duly 1 or	Vironiit	Difference from Average,	Heavest fall in	Ξ	= =	No of autoras	No of thund retorn	No of fugs.
RIO-Continued-																			
antford ora elph . ndon ris atford	43 51 44 15 43 41 43 33 42 54 43 12 41 23 43 8	80 5 80 21 80 24 80 16 81 13 80 25 81 0 50 47	1259 750 1274 1059 805 840 1191 980	45 1 50 5 47.4 48 9 50 8 50 0	$\begin{array}{c} + & 0 & 6 \\ + & 2 & 6 \\ + & 2 & 5 \\ + & 2 & 6 \\ + & 2 & 2 \\ + & 1 & 3 \\ + & 2 & 2 \end{array}$		76 2 77 0 72 0 75 0 75 5 76 0	7 6 5–6 6 6	21 9 27 0 27 1 27 1 27 27 30 0 29 0	15 15 15 15 15 0	15 T	2 35 2 37 2 02 2 70 3 13 3 03 2 97	+0.03	0 51 6 78 0 52 0 61 0 96 61	12	13		1 2 1	4 3
Ontario Counties																			
rora militon ronto Is.(Lakeside Home) bridge.	43 47 43 57 43 16 43 41 44 5 45 44	74 16 79 24 79 54 79 24 79 24 79 2 79 5 79 17	590 856 303 350 856 555	49 1 47 2 50 6 50 0 45 9 47 8	+ 0 7		74 0 73 0 73 8 70 0 72 0 72 0	6 6 6	28 0 25 5 30 1 34 0 25 0 27 1			2 37 3 03 2 27 	-1 53 +0 42 -0 50	0 67 0 73 0 67 0 69	15	16 		1	2
-Central Counties																			
liburton mount kefield idsay doe rwood terborn'	45 1 45 1 44 45 44 25 44 21 44 51 44 51	77 50 75 25 75 38 75 15 75 45 77 29 78 19 75 15	1050 920 850 872 575	47 1 46 8 45 4 48 9 47 9 49 1 40 1 46 8	+ 3 8 + 2 3 + 0 9 + 2 4 + 3 2 + 2 2 + 2 2	5	75 0 75 0 75 0 73 0 74 1 76 0 77 0 77 0	4-5 6 6 6 6 - 6 2-20	21 6 19 6 20 6 24 0 25 2 22 6 24 0 24 0	15 16 16 16 16 16	21 5 7 22 7 25 7 16 9 20 3 10 5 22 4 21 7	4 45 1 15 3 37 3 95	+5 3° +2 11 +0 74 - +1 07	1 75 1 51 2 16 1 46 11 53 1 11 1 47 0 51	13 9 9 13 10 6 9 7	2 1 1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		1	3
ome . p Rouge laruelt . ntrealbec Anne de Bellevue swingan Falls	45 10 45 46 45 85 45 31 46 45 46 27 46 34 45 52	72 36 71 18 71 21 73 35 71 13 73 50 72 43 72 5	678 896 187 296	45 3 44 9 45 4 49 1 45 5 49 5 43 4	+ 4 " - 2 9 + 2 5 - 1 1 - 3 1	32 35 38 6 11 10	72 H 72 5 71 2 5 10 3 10 3	6141.06600	2002	1° -2° -2° -2° -1° -1° -1° -1° -1° -1° -1° -1° -1° -1	17 18 18 18 18 18 18 18 18 18 18 18 18 18	3 22 3 74 2 51 3 39 3 5* 2 27 3 5*	+0.71 -0.35 +0.45 +1.05	1 - 0 1 - 21 1 - 07 0 - 75 0 - 5 1 - 54 - 55	12 11 13 15 16 16	19 14 14 15 16 18 15		1 1 1 1	
									- 1	- '	. `	3			4.1	1.9	I	1	1 /
ticosti, W. Pt equet pe Chatte pe Magdalen	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	61 42 64 32 68 53 66 45 65 20 68 19	30 39 - 93 20	40 1 40 3 44 5 42 7 42 0 42 9	- 0 6 + 0 6 + 5 0 + 11 9 + 2 7 - 2 9	29 31 31 30 30 35	54 0 53 0 68 0 70 0 70 0 68 0	7+20 6 7	25 0 32 0 30 0 29 0 25 0	17 16 17-1 11-11-11-11-11-11-11-11-11-11-11-11-1		2 57 2 33 3 55 3 00 2 05 5 75	-0 43 -1 35 +0 73 -0 60 +2 60	0 54 0 45 1 10 2 10 0 50 2 52	14 7 6 13	23 17 24 25 15			2 2 3
icoutimi (2) ke Edward Tuque stassini			150 1333 520 360 352	44 9 41 8 40 9				- 6 6 . 7	27 H 22 5 21 5	29 24 8-16	13.7 14.7 15.8	1 55 -4 95 4 21		0 36 0 85 0 83	12 19 18	19 12 13	4		1
nouan Crossing . ymontachingue : Dam A				42 5 39 9 36 3 41 7	+ 1 4	1 1 1	74 0 74 0 74 0	5 7 6	25   22   15   13   5	5-10 15-15 1	14 7	2 59 5 20 1 49 4 34	=	1 +5 1 04 0 41 1 18	19 5 13	12 26 18	2		3
North Shore																			
rke City .	50 10	66 25																	
Barnswick-																			
lhousie derictou ncton nt Lepreaux John Steplien ser	48 4 15 57 46 9 45 4 45 17 45 11	66 22 66 36 64 45 66 28 66 4 67 16	21 39 164 50 30 70 35 96	45 7 43 3 45 0 44 6 46 5 48 0 45 7 43 3	+ 0 4 + 2 2 + 0 4 - 0 5 - 0 5 + 0 6 + 0 0 + 0 2	38 37 35 15 34 6 39 15 15	78 0 75 0 77 9 75 0 60 0 74 0 74 5	6-7 6-7 5-5 5-6 3-7	5 H 7 5 C	31- 21- 21- 21-3) 21-3)	14 6	5 41 4 05 7 07 2 15 4 01 3 23 5 9 1 2.76 7.23	$\begin{array}{c} -1.72 \\ -2.27 \\ -1.12 \\ 0.00 \\ -0.92 \\ +1.59 \\ -1.22 \\ \end{array}$	2 35 2 31 1 86 0 60 2 75 0 74 2 33 0 89 2 61	16 13 15 9 4 13	15 23 15 27 24 16 22 27 18	1	1 I	4 1 2 2 2 2 4
	tentral Counting of the Counti	Contract   Countre   Cou	Contract   Counties	***Charla Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  ***Loentral Counties**  **Loentral  STATION	STATION	STATION	STATION    Station   Stati	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION    2	STATION    State   Sta	

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, OCTOBER, 1912.

			g				TEMP	ERATUI	E			Pre	CIPITAT	10 N	more			88	
STATION	Latitude	Longitude	Elevation above sea level, in feet	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range	Amount	Difference from average	Heavest fall in month	Days with .01 or me	No. of fair days	No. of Auroras	No. of thunderstorms	No. of fors
						_									-	_	-		-
Nova Scotta-	0 /																		
Antigonish Haldias Kentville. New Germany. Parrisboro' Port Hastings Sable Island, E. Pt Svedney. Wattelend. Widelend. Widelend. Widelend. Varmouth.	45 38 44 39 45 3 45 23 45 39 45 39 45 58 46 10 45 22 45 15 44 59 45 7 43 50	61 59 63 36 	50 88 40 40 45 25 35 77 20 90	48 3 49 1 44 0 47 4 42 3 48 0 46 7 48 8 48 4 48 0 49 5	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	39 38 28 10 13	75 0 76 6 74.0 78 0 68 0 77 8 78 0 76 0 65 0	7-8 6 7 6 6 6-7 7	23 0 28 3 21 0 20 0 23 0 29 0 21 0 25 5 27 6 30 6	22 22 22-30 17 17 17 22 17 30 30	20 8 1 18 2 18 6 7 12 6 . 15 4 21 3 4 18 7 13 4	3 77 1 57 2 95 1 88 2 66 1 95 5 99 1 96 1 85 3 87	-1 80 -2 70 -2 32 -2 63 -1 77 -0 11 -0 80		13 7 4 3 10 12 5 13 8	18 24 27 28 21 19 28 18 23 23	1	3 1 1 1 3 1	3 2 2
P. E. ISLAND-																			
Charlottetown Charlottetown (Exp. Farm) Hamilton	16 14 46 14 48 25	$\begin{array}{ccc} 63 & 10 \\ 63 & 7 \\ 63 & 48 \end{array}$	38 75	47 8 47 7 46 7	+ 0 7 + 0 3	3	70 0 73 0 70 0	7 7	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	17 17 17	12 8 15 8 14 3	3 73 2 66 3 00	-0 88	1 58 0 75 1 08	15 6 14	16 25 17			::
Newfoundland— Amour Point Burin Cape Norman Fogo Point Riche Port aux Hasques St. George's St. John's	50 42 47 35	56 51 55 10 55 52 54 17 57 25 59 10 	27 30 35 27 125	45 5 36 9 40 8 42 0 42 4 44 6	- 0 9 - 1 3	28 28 4 40	64 0 47 0 5e 0 55 5 58 2 67 0	7-8 4 25 7 6	28 0 30 0 25 0 27 5 29 2 30 0	12 11 17 22 16 12	14 6 - 8 7 !4 6 13 6	5 22 1 24 0 82 3.00 1 06 3.84	-2 69 -2 40	0 90 0 40 0 37 0 76 0 35 0 75	6 16 11	18 24 25 15 20 18		1	15
Labrador— North West River																			
Bermuda— Prospect	32 17	64 46	151	73 8	+ 0.5	21	83 6	12	61.0	28	10 1	2 16	-5 75	0.84	10	21		1	İ.

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, A. DURING OCTOBER, 1912.

STATIONS.		R.	AINFAL	L.			SNOW	FALL.		
	Amount in inches,	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month.	Date.	Amount in inches.	No of Days	Heaviest Fall in Month	Date	REMARKS,
Baitish Columbia— Alkali Lake									_	
	1 07 1 67	6 12	25 19	0 30	17					
Armstrong Beaver Lake	1 76 1 9;	ر 10	22 21	0 50 0 65	17					
Barriere Valley (Louis Cr.) Coquitlam Denman's Island	5 77	11	20	1 60	15					
		16	15 21	0.87	25					
Hydraulie		16 11	14	1 24 1 17	17 19	10 5	2	7.0	22 18	
Hydraulic Hornby Island Jordan River	3 31	9	22	0 45 1 43	10 17				10	Hail on 3rd and 4th
	8 46 2.61	18	12	1 85	1	2 0		2 0		
Little Qualicum Monte Creek Naas Harbour Shawngan Lako	0 85	6	25 25	0.85	18 24			- "	23	
Shawnigan Lake Wycliffe	11 70 3 88	16 15	15 16	1 45 1 76	18					
ALGERIA-				-						
	0.26									
Bardo Bismark Bismark Buteerheim Bittern Lake Brooks Caldwell Claresholm Dorenlee Dunstable Grassy Lake	1 00	1	28 28	0 18 1 00	17 17	3 5 5 3	1 2	3.5	19	
Bittern Lake	0 37	3	27	0 27	i i			4 2	8	
Caldwell	1 04 I 46	5 5	26 23	0 67 0 57	S	4.8	1	4.5	19	
Dorenlee	0 17 I 00	1 5	28 25	0.17	8 27	14 0 6 0	3 2	6.0	28 29	
Dunstable	0.49	3	26	0.40 0.28	17 1	3 6	1 2	3.5	16	
Jumping Pound	4.52	6	23	3 50	28	18 0	2		19	
Lyadon	2 45	3	27	1.20	9	2 1		× 5	8	
La Pearl					9	20 3	3	2 1 10 5	28 27	
Macleod	1 03 0 51	4 2	25	0.55	8	¥	2	*	8-18	
Maycroft Nateby	C 61	3	26 24	0.50 0.28	23	10 0 12 7	3	6.0	28 28	
NaatonOkotoks	1.00	2	27	0 90		9 0	2			
Loch Sloy Lyndon Litcham La Pearl Lethbridge Macleol Maycroft Nateby Natton Okotoks Pekisko Ponoka	R 1 02	1 2	30 26	R 0.65	8 1	16 0	1	5 0	28 28	
Ponoka Sion					8		. 3	7.0	28	
Sion Seven Persons Tilley Writing-on-Stone (Coutts)						5 5	2	3 0	8	
Writing-on-Stone (Coutts)	0.31	2	27	0.20	8	2 6	2	1.9	9	
ASKATCHEWAN-										
Aberfeldy	0 07 0 95	2 2	25	0 07	8	*	1		19	
Gull Lake Gull Lake (Fks. Swift Cur ) Last Mountnin	0 49	ĩ	26 28	0 75 0 49	8	9 3 5 0	3	4 0 3 0	9-17	
Maple Creek Meadow Lake	0 93	2	28	0.78	9	*	1	*	8	
Meadow Lake Willow Creek (Battle Cr.)	0 39	2	29	0 34	9				8	
ANITOBA-										
Cartwright Delorsing	0.69	4	26	0.28	27	6.0	1			
Norquay (Swan Lake)	0.72 0.72	5 3	24 27	0 28 6 37	9	2 0 8 0	2	6 0 1 5	27 26 .	
Cartwright Deloraine Norquay (Swan Lake) Rapid City Rose Bunk	0.17	3	26	0 15	5	*	2	5 0 * 1	29 0-28	
NTARIO Door Pork					****					
Dutton	2 17 3 82 4 17	6 7	25 24	0.57	18 18					
Fort Frances	1.79	15 5	15 26	0 89 0 82	23 29	5 0	1	5 0	31	
Grantham	2.12 3.01	12	19	0 45	23					
Enradale Fort Frances Georgetown Grantham Grand Valley MacCue MacCue Sydenham	1 85 3 07	8		1 45 0.49	23 19					
Princeton Stydenham Strathroy Watford Vestport Vestminster Vooler	3 37 3 33	7	24	1 86 C.95	25 22					
Strathroy	1 83 2 92			0.93 0.61	18 18					
Vestport	2 81	8 7	24 23 24 25	0 55 0 75	11 23					
	2 85 5 42	6 6	25 24	0 91 2 07	19	transport				
Vattenwyl	2 40 4 00		18	0 80 3 95	23					
Viarton	3 56			1 10	12 31	*	1	×	30	
HOOTES										
erkins Mills Juinze Dam	3 72 3 65 2 67	8	23 25	1 57	24					
miskaming	2 67	8	25	1 30 0 70	24 25 12	0 3	1	0.3	15	
w Brunswick— oint Escuminac	3 73	7	24	1 49						
VA SCOTIA-			1	1 42	26					
ig Mushamush Lake (Ma- hone)			1							
ilton	5 96									
ushamush River (Mahone) appan onth Alton	1 67			-						
onth Alton Thite Rock	2 60	9 2	2	68	2   .					
The same of the sa	3 06	€ 2	x   :	75						

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF OCTOBER, 1912.

a Barometer not reduced to sea level

		Bea .	PRESSU	Rε	ordity.	completely		re - Dia	IE(116N (	OF WIN	D FROM		Vi	WIND
STATION	Latitude N. Longitude W.	Elevation above se level, in feet.	Highest.	Lowest	Mean relative humidity.	f days	z z	<u>n</u>	<u>y.</u> <u>y.</u>	.S.W.	W N.M	C.   Total number of   observations	Mean miles per hour.	Maximum velocity.  Date and direc- tion from.
Burrish Columba— Atha Atha Kardhops Kardhops Kardhops Prince Rupert Trangal Island aTranquile Vincouver Victoria	50 25 133 38 53 2 121 33 50 42 120 21 49 10 123 33 54 18 130 18 50 52 120 5 50 41 120 22 49 17 123 5 48 24 123 11	4180 29 9 1215 29 9 125 170 29 7 680 29 9	8 30 45 2 9 30 31 2 6 37 49 2	9 30 1 42 9 37 1 08 8 97 1 38 9 13 1 27 9 37 1 02 9 40 0 90	80 94 86, 82	5 17 8 8 8 8 8	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 0 2 17 4 1 0 24 8 5	0 (4 4 4 12 12 14 14 14 14 14 14 14 14 14 14 14 14 14	1 1 2	: 1 2 0 1 0 1 0 1 5 3 3	51 62 12 62 15 62 0 63 16 62 9 62	2.5 5.3 2.6 2.8 9.0	10 0 58W 18 0 8W 10 0 23S 16.9 38W 39 0 178W
Yuros— Dawson .	64 4 139 20	1200											+ 4	
ALBERTA— Banff Calgary Edmonton Mydreme Hat	51 10 115 34 51 2 114 2 53 33 113 36 50 1 110 37	3389 29 9 2158 29 9	6 30 57 2 3 30 34 2 0 30 34 2 2 30 34 3	9 35 1 22 9 24 1 10 9 34 0 97 9 65,0 69	60 65 74 67	5 5	1 5 2 5	4 1 2 1 4 1 4 1	1 2 2 1 3 6	26 4 8 42	8 0 3 22 12 8 18 8	19 62 19 62 17 62 7 93	3 5 4 8 4 4	25.0 38W 18 0 8NW 22 0 I W. 18 0 20 NE
SASKATCHI WAN— Battleford Moose Jaw Prince Albert Qa'Appelle Swift Current	52 41 108 20 50 21 105 35 51 10 106 0 50 30 103 47 50 20,107 45	1620 29 9 1750 29 9 1432 23 8 2115 9 9 2439 29 9	0 80 30 2 3 30 42 2 5 30 23 2 1 30 38 2 6 50 40 2	9 38 0 62 9 21 1 °1 9 11 1 12 9 18 1 2 d 9 20 1 11	76	1 7 5 5	5	4 3 4 6 1 H 6 1 3 3	15 1 0 0 1 3 4 10 10 2	4	13 10 12 8 12 3 8 16 38 11	20 93 37 93 22 62 0 62 2 93	7 5 2 4 0 11 6 7 2	25 0 H-ESW 22.0 16SW 12 0 29W 28 0 2NW 22.0 17W
Manifoldy—  a Awenie (St. Alban's)  Minnedosa  Le Pas  Winnipeg	49 42 99 38 56 15 9 50 53 49 601 15 19 53 97 7	1180 1699 29 9 860 29 8 760 27 9	2 30 30 2 5 30 39 2 1 30 38 5	9 20 1 19 9 24 1 15 9 15 1 23	91 .	5 8 5 5	14	8 4 2 2 6 2	1 1 3 8 1 10	6 15	10 <sub>1</sub> 18 15 10 13 <sub>1</sub> 20	42 93 2 93 1 93	4.9 7.3 13.0	29.0 18NW 27.0 2W 46.0 29NW
ONTMOTO- Cochrane Hadevlury Indevlury Double Double Offawa Party Sound Port Stanley Southington Stanley White River Woodstock	49 2 81 6 47 2 79 33 41 13 76 29 42 59 81 15 29 75 42 45 19 80 0 48 27 89 12 42 40 81 13 44 40 81 21 46 9 58 6 43 40 78 16 18 35 85 16 10 8 80 47	687 29 9 285 30 0 805 30 0 294 30 9 635 30 6 644 29 9 592 30 0 656 30 0 557 29 9	4 30 48 2 0 30 39 2 0 30 43 2 3 30 47 2 7 30 52 2 3 30 44 2 9 30 36 2 4 30 46 2	$\begin{array}{c} 9\ 40\ 1\ 03\\ 1\ 87\ 0\ 79\\ 1\ 68\ 0\ 80\\ 9\ 59\ 9\ 80\\ 1\ 58\ 9\ 85\\ 9\ 21\ 1\ 26\\ 0\ 73\ 0\ 79\\ 3\ 58\ 0\ 80\\ 9\ 56\ 0\ 80\\ 9\ 56\ 0\ 80\\ 9\ 67\ 0\ 79 \end{array}$	\$2 80 81	6. 3 6. 11 6. 9, 5. 5	6 0 1 0 27 5 2 9 0 9	1 2 0 9 1 3 2 2 9 5 5 4 6 1 11 4 7 0 3 5 9 0 3	7 13 2 10 8 5 25 3 5 1 13 2 4 10 6 2 9 14 0 2 2 0	16 14 16 17 10 9 28 0	8 6 10 14 8 8 3 32 5 7 20 21 15 14 16 16 21 0 9 16 14 29	1 62 7 69 8 62 9 93 8 62 2 62 2 62 0 62 36 62 0 62 0 62	8 31 111 0 1 7 6, 8 7 10 0 11 0; 14 0; 14 3; 12.8	24 0 12W V1 17 8W 20 0 38W 111 12 8W 15 0 12 W 26 0 12 8W 30 0 14NW 17.0 15W 37 0 12W 20 0 128W
Quini c— Father Point Montreal Quebec	48 31 08 19 45 30 73 35 19 48 71 13	187 29 8	4 30 41 29 9 30 37 29 8 30 42 3	37 1 04 3 58 0 79 1 46 0,96		10 4 6 6 9	10 3 ! 1 2		3 10 5 11 1 3	20 33 29	21 12 8 22 19 11	0 93 0 93	17.3 15.2 14.0	38 0 7W 28.0 17SW 53 0 24NE
New BitUnswite K— Chatham Fredericton St. John	17 3 65 29 15 57 66 36 15 17 66 4	164 30 0	0,30,45,2° 2,30,47,2° 1,30,48,2°	0.31 1.14 0.24 1.23 0.40 0.90		5 5 5 7 5 8		1 10 6 3 2 3	2 0 11 10 14 8	10 17 24	23 10 15 26 2 24	5 62 3: 92   5: 03	5 8 8 6 13 0	22 0 16NW 28.0 15NW 41.0 16NW
Nova Scotty— Habbay Sydney aWolfville Yaranouth	44 30 63 36 46 10 60 10 15 7 64 20 43 50 66 2	35 29 9	1 30 4 F26 8 30 52 20 1 4 30 49 29	38 1 11	84 75 85	7  :	ε 4	4 0 0 3 4 b 4 1	8 3 12 2: 3 1 9 7	4 29 14 14	23 11 13 23 16 11 6 5	1 63 5 93 3 62 3 62	13 1 8 1 12 0	43 0 26 N 24 0 16 N W 29 0 25 SE
P. E. ISLAND Charlottetown	16 11 63 <b>1</b> 0	38 29 9	9 30 49 29	9 42 1 07	80	11	5	1 3	6 3	18	7 11	8 62	8 0	27 0 128
NUMPOUNDIAND Burin Fogo Port any Basques St. George's St. John's	. 47 0 55 10 49 43 54 17 47 35 57 10 48 27 58 31 17 34 52 42	30:	7 30 51 2 5 30 48 29 5 30 58 29 5 30 42 2.		: ::		2 4	6 2 9 17 5 5 9 0	4 5 3  2 8  6 8  5	6 6 19	6 23 7 13 4 21 2 12	0 62 3 62 1 56 0 62	14 4 20 0 111 9 5	42.0 2SW 54.0 16NW VI 24 E 24.0 30 NE
Bi ratuna Prospect	32 17/61 46	151 30 0	30 28 20	86 0 12	82	5   U	27 2	4 14	7 14	1	3 3	0 93	11 0	29 0 16NE

### MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE PAY IN THE MONTH OF OCTOBER 1012.

Hours Ending

STATION.	4 n n	5 a m	6 a m.	E	Sam	9 a.m.		11 :: 12	Neon		E = 17	1111	- E	- 5 p m.	6 p.m.	7 p m.	N p m	Ē
Victoria				02	05	14	32	47	54	57	1,4	74	41	11				
Salmon Arm					0.5	21	29	38	47	4.5	4.2	41	1	12				
Nanaimo																		
Vancouver				T	08	21	37	4.5	47	\$11	11	4_	42	24				
Agassiz					63	23	27	27	-1	27	27	24	15	(14				
Franquille																		
Summerland					11	58	41	45	44	15	+	12		11				
Kamloops					01	25	32	11	47	45	7.1	17	.5	01				
Edmonton .				T	14	49	51	61	58	5+		- 2	54	.16				
Lethbridge					29	52	61	62	+ 8	7.5	+7	1.5	57	.24				
Lacombe					11	45	CO.	70	7.1	65	f <sub>n,i</sub>		35	.03				
Medicine Hat																		
Fort Dunvegan						06	13	3;	37	56		.23	10	T				
Fort Vermilion				T	08	21	34	37	4,1	45	4.2	4.3	40	22	0.5			
Battleford				6.2	26	30	57	58	59	60	57		.7	11				
Indian Head					63	35	46	4.	45	54	45		37	06				
Moosejaw					11	49	53	55	35	10	+1	55	47	0.9				
Scott				15	42	57	61	63	6.5	t 7	17	5.0	25	0.5				
Rosthern.					12	32	4.1	45	-11	45	4.5	11	35	07				
Brandon					05	45	64	61	64	6,5	57	5.1	29	02				
Winnipeg						26	59	63	57	19	47	54	51	.23				
Haileybury				02	22	.46	57	52	50	4.5	44	.41	58	.28	(15			
Woodstock																		
Lindsay					03	26	57	57	52	51	51	53	40	112				
Barrie					20	10	52	50	44	45	54	4.9	45	.17				
Toronto					25	.50	61	63	63	6.1	61	52	44	28	T			
Kingston					15	54	62	62	6.5	59	50	54	45	.07				
Ottawa					31	54	61	64	HS	70	66	5	56	.30				
Montreal				02	34	57	55	55	65	,66	$f_{11}^{\alpha}$	62	60	.21				
Cap Rouge					06	29	39	37	40	36		28	27	07				
Quebec					10	33	33	41	41	42	45	57	38	17				
Sherbrooke					.38	55	60	55	52	35	54	53	41	27				
Fredericton					15	47	48	57	59	57		28	55	. 27				
Charlottetown					14	39	48	49	48	50	55	511	43	2.5				
Nappan					12	42	54	53	55	55	55	2.5	49	37	()4			

	Vietoria.	Salmon Arm.	Nanaimo.	Vancouver.	Agasız.	Tranquille.	Summorfand.	Karoloops	Edmonton.	Lethbridge.	Lavombe	Medicine Hat.	Fort Dunvegan	Fort Vermilion	Battleford	Indian Head	Moose Jaw	Scott	Rosthern	Remiden	Mannipee	Hadeyluny	Mondstock	Limitsay.	Barrie	Toronto	Kingston	Ottawa	Montreal	Cup Rouge	Quelec	Sherbrooke	Fredericton.	Charlottetown.
Registered duration in hours	118	97		111	65		112	104	150	173	149		61	105	141	115	144	161	1/6	1.9	179	1 1		130	132	157	150	173	176	57	107	153	149	132,14
Percentage of pos- eible duration o	35	29		33	19		A -	31	45	51	45		19	33	43	34	43 ;	45	33	11	41	ji.		45	39	46	4.1	51	54	21	.32	45	41	39 43
Difference from average %	+ 9	–		-	-12		_		_	-	_		_		5	_ 4				- 2				- 2	+ 3	. 2	+ 4	: 1+	+13				+ €	
daximum percent- ege is one day %	89	81	١,	84	80	Ì	51	7.5	90	94	85		76	×7	5.0	77	81.	97	×		81	: 1		81	×1	86	81	9.1	95	51	* 5	99	91	80 0
Dete of maximum	6	1 - 2		- 6	11		11	20	21	31	24		13	14	24	15	25	1.2	12	1+	. :			5	5	16	21	16	211	21	21	9.0	29	12
dumber of days completely clouded	7			ь	18			5	5	3	ì		15	15	ī		8	(s	11			1		5	ŧ	5	4	5	4	12	5	3'	7	11,

## FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF OCTOBER, 1912

			DIR	ECTIO	N O	F W	IND I	FRO.II		
STATION	ż	N. Ei		S.E.	ś	S.W.	Ä	N. W.		Total number of Observations
ALBERTA— Athabasca Landing Didsbury Endiang Halkirk (Emsburg) Hillsdown Loveland Macleod Pakan (Victoria) Ranfurly (Waitefield)	0 0 1 4 0 2 3 4 5	0 0 2 2 1 9 2 6 2	4 1 2 0 1 1 0 1	1 0 15 5 4 13 0 0	6 5 6 17 11 1 1 3	2 10 0 16 8 17 2 15	15 3 2 8 1 9 45 21	3 11 3 10 24 19 3 11	0 0 0 0 12 0 6 1	31 30 31 62 62 62 62 62 62 93
SASKATCHEWAN Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan)	0 1 3 2 2 7	8 5 3 2 8 6	0 0 2 10 1 3	1 2 2 6 8 1	1 6 5 7 5	1 6 3 3 20 22	0 7 5 14 2	20 4 8 18 16 27	0 0 0 0 0 8	31 31 31 62 62 93
Moosomin Muenster (St. Peter's Monastery) Onion Lake	1 0	0 13	0	7	6	0 17	4 0	13 32	0	31 62
Pense (Gatesgarth) Waseca Manitoba—	1 0	0 2	0 2	5 2	1 ()	9	8 15	7 5	0	31 31
Berens River Brandon Hillview Moose Horn Bay (Aithensville) Morden Oak Bank Stony Mountain	2 6 9 4 4	15 10 9 4 0	1 4 4 0 0	5 4 4 2	1 0 8 5 1	23 20 5 13 8	14 13 3 16 3	24 32 18 9	11 0 2 7 0	93 90 62 62 31
ONTARIO	0 9 7 5 6 16	0 0 0 1	14 10 0 5 0	6 10 5 7 14 4	1 26 46 12 10 25	40 13 7 10 12 1	5 24 4 3 9	23 1 17 17 10 0	2 0 37 3 0 1	93 93 93 62 62 62
Lindsay. North Bruce Orillia. Owen Sound	12 14 2	0	8 12 3	5 2 1	15 37 8	25 10 7	10 7 4	13 11 4	1 0 2	93 93 31
Point Clark	5 4	2 5	10	4 3	13	14	7 12	7	0	62 62
Stoney Creek	1 11 2	6 0 0	16 7 6	2 0 1	1. 10 2	24 0 6	34 4	4 0 4	0 0 6	93 62 31
QUEBEC — Abitibi Anticosti, W. Pt. Anticosti, Heath Point Bicquet Brome Cape Chatte Cape Magdalen Cap Rouge Chicoutimi Clarke City Mandan Crossing	13 8 12 10 3 2 5 7 0		1 13 9 0 10 17 7 0	3 5 13 0 0 0 2 0	32 22 1 11 18 0 20 0	7 4 9 18 10 5 8 0	21 7 19 22 43 47 2 0 0	12 28 21 14 0 2 36 17 20	2 0 4 2 0 20 10 0 24	93 93 93 93 87 93 93 31 93
3371-74 - 631 - 1 1 1										
Dalhousie Moncton Pt. Lepreaux Sussex	1 0 11 0	0 1 2 1	8 5 6 0	3 4 8 3	0 0 3 0	0 3 19 4	16 1 13 2	15 19 6	$\frac{0}{2}$ 0 15	30 31 81 31
Nova Scotia Kentville Parrsboro	1	2	5	2	6	11	24	10	0	62
Port Hastings. Sable Island, E. Pt Truro. Whitehead.	0  15	 	13	99	12	9  34	 6	12 9	0	<b>3</b> 1 93

### Thunder recorded:

- 1. Dunstable, Sion, Campsie, Point Lepreaux, Halifax.
- 2. Halifax.
- 3. Pemberton Meadows.
- 4. St. George's, Nfld.
- 5. Cartwright, Kakabeka Falls, Oakbank, Treherne, Prospect, Bernuda.
- 6. Treherne.
- 7. Fredericton, Hydraulic,
- 8.
- 9. Birnam, Lucknow.
- 10. Halkirk.
- 11. Westport, Emsdale, Deer Park, Perkin's Mills, Aurora, Paris, Clinton, London, Guelph.
- Georgetown, Wooler, Wesley, Beatrice, Rutherglen, Brome, Agincourt, Madoc, Wexford, Birnam, Lucknow, Orillia, Almonte, Renfrew, Sherbrooke, London.
- 13. Dutton, Emsdale, Rutherglen, Halifax.
- 14. Rutherglen.
- 15. Kentville, Khtada Valley, Sydney.
- 16. Cranbrook, Crawford Bay.
- 17. Rapid City, Nakusp, Nelson, Banff.
- 18. Georgetown, Windsor, N.S.
- 19.
- 20. Kakabeka Falls.
- 21.
- 22. Ladner, Vancouver.
- 23.
- **24**.
- 25.
- 26.
- 27.
- 28.
- 29. Rutherglen.
- 30.
- 31.

	Anroras recoraça:
1.	
2.	
3,	Kingston.
4.	
5,	Quebec.
6.	
7.	
8.	Kingston.
9.	Kingston.
10.	Kingston.
11.	Sion IV, Campsie IV, White Shore Lake IV, Kingston, Beaver Lodge IV,
	Waseca, Waitefield IV, Halkirk, Campsie IV, Mistassini III, Aitkensville IV, Kingston, Forton I, Fort Vermilion VI.
	Wassea, Muenster IV, Sion IV, Waitefield IV, Campsie IV, Mistassini IV, Aitkensville IV, eg H. Kingston, Fort Vermilion VI.
14. Sherbro	Wassen, Crescent Lake IV, Sion IV, Waitefield I, Aitkensville IV, Aweme III, Fredericton II, oke IV.
15.	Sion IV, Waitefield III, Mistassini III.
16.	Crescent Lake IV, Sion IV, Waitefield IV, Mistassini IV, Aitkensville IV.
17.	Melfort IV, Crescent Lake IV, Sion IV, Elko.
18.	Sion IV.
19.	Salt Spring Island.
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	White Shore Lake IV.

28. 29. 30. 31.

### FORECASTS FOR OCTOBER 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1354. These were divided as follows:—

				VERIFI	ED.	
	District.	No. Issued.	No. Fully	No. Partly	No.	l'er- centage
Alberta		90	58	15	14	74 4
Saskatchewan		93	68	15	10	81.2
Manitoba		96	86	7	3	93 2
Lake Superior		119	8.1	27	9	81.1
Lower Lake Region		123	99	18	6	87 S
Georgian Bay		123	105	11	7	89-8
Ottawa Valley.		105	Ç.,	15	5	88.4
Upper St. Lawrence		108	24	12	5	89.8
Lower St. Lawrence		124	99	17	8	86.7
Gulf	. • • .	123	17%	15	10	85.5
Maritime Provinces West		123	95	20	5	87.8
Maritime Provinces East:		124	105	13	ь	89 9
Total		1354	1075	188		86.6

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, Nov. 25th, 1912.



### DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVI.

NOVEMBER, 1912

No. 11

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

### TEMPERATURE.

### BRITISH COLUMBIA.

The maximum temperature occurred about the 12th or 13th and the 16th or 17th, on Vancouver Island and along the Fraser River, in a few instances exceeding 58°. In the Okanagan Valley and the Kootenays it occurred between the 18th and 23rd, and in many cases did not reach 50°. The coldest days were the 27th, 28th and 29th. On these days along the Upper Fraser River the minimum temperatures ranged between zero and 15°; in the Okanagan Valley and the Kootenays between 10° and 25°; and in the southwestern districts between 27° and 32°. The mean temperature was above average except on Vancouver Island, where there was a deficiency of less than 1°. Elsewhere in the Province excess ranged between 1° and 4°.

### THE WESTERN PROVINCES.

The month was exceptionally mild, especially in Saskatchewan and Manitoba, the excess over normal ranging between 5° and 12°. From the 9th to the 22nd and on the 24th and 27th, maximum temperatures ranged between 40° and 65°, southerly winds having prevailed during the greater part of this period. The eoldest days were the 2nd, 5th, 16th, 27th, 29th and 30th, on which days the temperature fell below 10° at nearly all stations except the most southerly. At some northern stations temperatures below zero were recorded on the last two days.

### ONTARIO.

In the peninsula of Ontario the mean temperature was from 2° to 4° above normal, and over the remainder of the Province about 2°. The eoldest days were the 3rd, 16th, 22nd to 29th. The lowest temperature of the month was recorded on the 27th and 28th, when temperatures below zero were recorded in Algoma and Thunder Bay and at some points near the Ottawa River, and as low as 7° in Southern Ontario. In the southern counties, however, the minimum did not generally fall below 20°. On the 6th, 7th, 11th to 14th, and 21st, maximum temperatures exceeding 50° were recorded, while at some places in the peninsula 60° was exceeded on the 11th and 12th.

### QUEBEC.

Over the greater portion of Quebec the mean temperature exceeded the normal by about 1. In the northwestern districts the minimum temperature fell below 10. on the 15th, 28th and 30th, while in the Lake 8t, John district 5° below zero was recorded on the 28th and 29th. Along the 8t, Lawrence River the temperature fell below 10. on the 29th only.

### THE MARITIME PROVINCES.

In Cape Breton the mean temperature was a little below the average, but elsewhere in the Maritime Provinces was from 1 to 3 above. 60 was exceeded on the 6th, 7th, 8th, while the lowest temperature occurred on the 20th, and did not generally fall below 15°.

### PRECIPITATION.

### BRITISH COLUMBIA.

In portions of the Kootenays and Okanagan Valley the precipitation exceeded the average by a small amount, but over the remainder of the Province there was a small deficiency.

### THE WESTERN PROVINCES.

Rain was recorded in some places in Saskatch wan on the 9th, while snow was recorded on from 4 to 8 days in this and the other provinces. Total precipitation was, however, much below average,

#### OURLEYO

In Rainy River, Thunder Bay, Nipissing districts, the counties bordering on Lakes St. Clair and Eric, and along the Upper Ottawa River, there was a deficiency of from 1 to 2 inches. Along the Upper St. Lawrence and Lower Ottawa Rivers and in the Lake Huron and Georgian Bay counties there was an excess of from 1 to 4 inches.

### QUEBEC.

In Western Quebec the precipitation was from 1 to 2 inches in excess of normal, but in Eastern Quebec there were local deficiencies.

### THE MARITIME PROVINCES.

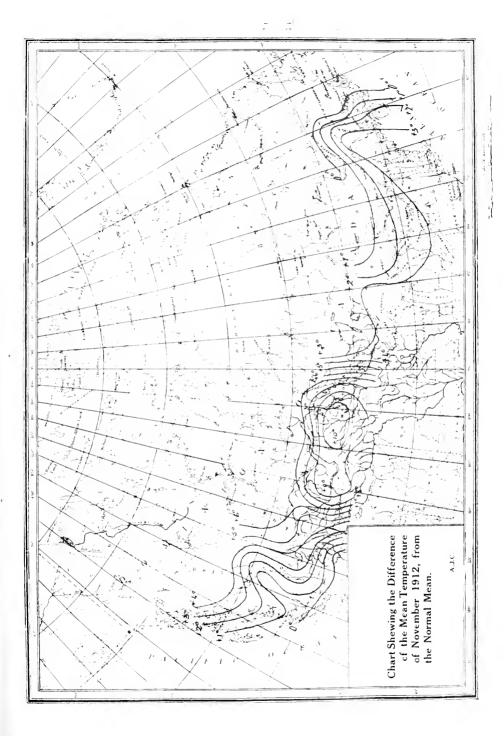
In New Brunswick a small excess was recorded in most cases, but in Nota Scotia and Prince Edward Island there was a general deficiency, which was quite large in Cape Breton.

### ATMOSPHERIC PRESSURE.

Taking the results at the telegraph reporting stations for November as indicative of the conditions throughout the Dominion, it would appear that the mean value of the atmospheric pressure was subnormal except very locally in Vancouver Island, B.C., and near the west end of the Bay of Fundy in New Brunswick, where the normal was slightly exceeded. Negative departures from average were generally more than -0.05 of an inch, and in the Western Provinces exceeded -0.10 of an inch in many localities.

### THGH AREAS.

Ten areas of high pressure were charted. Two first appeared in the vicinity of Hudson's Bay, both of feeble energy, the remaining eight moved into the United States from the Pacific Ocean, thence to the South Atlantic States, where they either dispersed or else passed out to the Atlantic. The general point of entry on to the continent, and the subsequent path of these highs was no doubt the cause of the very mild weather which prevailed during the month over the Dominion.



### LOW AREAS.

Thirteen areas of low pressure were charted. Two first appeared on the Alaskan coast, four on the coast of Northern British Columbia, one in the interior of British Columbia, one in Alberta, three in the Pacific States, one in the Gulf of Mexico and one off the Florida coast. The eleven areas from the northwestern and western portions of the continent travelled either over or well to the northward of the Great Lakes, usually the latter, while of the remaining two, the first one passed over the Atlantic States to the Maritime Provinces, and the second up the ocean some distance off the Atlantic States coasts to Newfoundland, skirting the Cape Breton coast. This latter system was of remarkable energy, causing gales of great violence over the eastern portions of the Maritime Provinces and also in Newfoundland. Irrespective of this great system, the areas were with few exceptions of very moderate energy, and in consequence the gales which were experienced were fewer and of much less force than usually occur during the month of November.

200

### WINDS, NOVEMBER, 1912

PROVIN	CES AND STATIONS	Total Wrieuge	Oreatest Wilense In 24 hours	Greatest Mileage one hour	Number of days of Gales	National of the or Straigh Winds	to ber cave dresh Voids	GENERAL Direction
В	кіп-н Соы мвіх						_	,
Victoria		30.4	457					× a -1
	VIBERTA.							
Calgary Edmonton		:468 :7(0)	213 304	25				/// //////////////////////////////////
;	SASKAD PEWAS							
Qu'Appelle		*142	488	32	-			* # # # # # # # # # # # # # # # # # # #
	Wyniosy							
The Pas Winnipeg		5630 7948	412 126	25	1	,	-11	$^{W}_{SE}$ , $s - sw$
	ONT-1.0							
Port Arthur Parry Sound Southampton Woodstock, Loronto Kingston		7214 7207 8541 5048 10370 8659	524 414 526 815 719 605	54 23 24 19 40 3)	- 2 5 4	12 1 1 15	18 16 17	NII 8II a NII 8II a NII 8II a NII 8II a NII
	throc,							
Montreal* . Quebec Futher Point		1488 111 io 4180 7	309 948 840	45 7.2	† () 1	1.1	10	811 11 d A1 -11 d 11
MA	REIME PROGINGS							
Fre lericton St. John Pt. Lepreaux Yarmouth Halifax Elat Pout Chiribatetox (		5557 -0119 12572 10394 -8053 11904 -5401	45 641 776 766 677 783 362	26 39 50 50 44 62 26	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	15 5 1	20 1 1 20 10 0 10	W & NW NW SW, NE, NW, W SW SW

<sup>\* 25</sup> days record only

	-					-		1 EMPE	RATURE				PREC	TEITATIO	N.					
STATION	N abutute I		Long:tude W	Elevation above sea level, in feet	Меал	Difference from average	Yr's Observations	Mghest	Date.	Lowest	Date	Mean daily range.	Amount	Difference from average	Heaviest fall in month.	Days with ,01 or more.	No. of fair days	No. of auroras	No. of thunderstorme.	No. of fogs,
BRITISH COLUMBIA																				
S. Vancourer Island		,	. ,																	
Alberni (Beaver Creek) Clayoquot Cloose Cowichan (Tzouhalem) Nanaimo Nanoose Bay, Salit Spring Island Sooke Victoria	49 49 48 49 40 48 48 48	15 11 25 10 17 50 41 24	124 49 125 55 123 42 123 37 124 12 123 20 123 44 123 19	27 170 125 30 25 85	41 2 44 8 12 7 43 6 43 1 42 3 42 6 43 4 45 2	+ 0 0 - 0 7 - 1 + 0 4 - 0 6	1 6 12 1 4 2	58 0 56 0 51 0 55 0 58 0 54 0 52 0 57 0 55 4	5 15 4-22 12 17 17 16 16 16	29 0 32 0 30 0 27 0 29 0 28 0 30 0 29 0 30 3	14 27 27-29 28 27-29 27-28 28 27-28 28	10 0 10 0 9 9 10 5 9 6 11 1 8 4 1 10 9	13 54 18 85 17 03 6 81 8 71 7 17 7 21 6 87 5 04	+1.36 -1 28 - +0 11 - - -1 03	2 75 2 01 2 12 1 24 1 37 0 95 1 09 0 80 0 59	23 25 19 23 21 25 24 17 22	7 5 11 7 9 5 6 13 8		1 i	· · · · · · · · · · · · · · · · · · ·
N. Vancouver Island																				
Holberg Swanson Bay Triangle Island Winter Harbour (Quatsino).	50 50 50 50	39 37 52 32	128 18 126 53 129 5 127 40	680	42 8 39 5 43 3 43 1	+ 1 1	3 5 1 16	54 5 50 0 50 0 55 0	13 15-16 16 2-17	33 6 9 30 0 9 38 0 28 0	9 6-30 26	5 9 5 6 12 2	24 55 27 22 9 62 14 73	=	5 41 3 00 1 60 2 71	23 23 8 24	7 7 22 6	::	 1	· · · · · · · · · · · · · · · · · · ·
Lower Fraser River							1									1				
Agnesiz Chilliwack Hope Ladiner New Westminster North Nicomen Pemberton Hatchery Ruskin (Stave Falls) Steveston(Garry Point) Vancouver	49 49 49 49 49 50 49 49	14 10 23 05 13 12 20 16 21	121 31 121 57 121 25 123 4 122 54 122 2 122 33 122 23 123 17 123 5	52 21 500 330 59 125	42 4 42 0 37 6 44 9 42 3 43 1 38 0 42 7 43 1 43 8	+ 1 0 + 1 0 + 1 2 + 0 1 + 0 1 - 0 8 + 1 5	9 3 12 25 19 5 3	55 0 55 0 50 5 59 0 54 0 61 0 48 0 55 0 52 9	1 7 17 16 2 12-16 13 17 13 18 13 12	30 0 26 0 28 0 29 0 31 0 26 0 31 0 28 0 31 2	14 27 27 25 14 27 28 25–28 14–28	15 0 8 5 12 1 11 7 7 2 10 4 4 8 9 2 10 6 6 7	13 82 10 81 10 19 5 46 8 32 13 19 5 49 13 57 6 25 9 21	$ \begin{vmatrix} +5.13 \\ -0.59 \\ -1.70 \\ +0.56 \\ -1.70 \\ -0.32 \\ -2.24 \end{vmatrix} $	1 65 1 81 0 55 1 26 1 76 1 13 1 60 2 0 90	26 23 21 18 20 21 18 20 23 23	4 7 9 12 10 9 12 10 7 7		i	 2  4 1  1  2
Upper Fraser River				,																
Babne Lake Barkerville Chileotin (Big Creek) Fort George Fort St James (Stuarts Lake) Hydraulic, Quesnelle	55 53 51 54 52	28	126 26 121 35 123 0 124 12 122 30	4180 3100   2280	29 1 26 7 26 5 29 9 28 1 34 9 31 9	-10 +39 +09	19 19	52 n 52 o	16 16 16 16 17 16 17	2 0 8 0 3 0 0 0 4 5 15 0 10 0	15 25 28 30 15 25-30 28	13 2 11 6 19 4 17 9 14 4 16 7 16 0	7 00 2 35 0 42 1 50 0 80 0 70 0 97	-1.06	0.15 0.51 0.14 0.13	1 7 4 11 11 9 6	29 23 26 19 19 21 24	::		::
Okanagan Valley												1				ŀ				
Heilley (Nickel Plate) Retemeos Kelowna (Okanagan Mission) Pentition Princeton Summerland Vernon (Coldstream Ranch)	49 49 49	15 29 29 36	119 35 120 29 119 40	1200 1650 1100	36 5 24 8 37 7 36 5 39 5 32 2 36 3 36 0	+ 0 1 + 0 1 + 0 1 + 1 0	17 6	54 0 49 0 54 0 47 0 52 0	19	21 0 8 0 22 0 21 0 21 5 13 0 22 0 20 0	28 26 27-29 26 25 26 26-28 26	12 4 11 0 11 9 12 4 13 4 12 3 11 5 11 8	0 55 0 90 0,58 1 17 1 02 0 91 1 15 1 38	+0.19	0.23	10 8 5	25 20 20 20 22 25			3
West Kootenay			,																	
Crawford Bay Creston Grand Forka Greenwood Howser Kaslo Nakusn Needles Nelson Rossland	49 49 49 1 49 1 49 49	52 52 40 29	118 27 118 49 117 0 118 9 117 21	1752 1760	36 3 31 3 36 3 34 0 34 8 36 3 32.9		2 1 2 1 1 3 1 8	50 0 49,0 47 0 47 0	19 14 14 19	19 0 19 0 15 0 24 0 18 0 21 0 18 0 20 0	27-28 25-26 27 26-28 28 28 28 27	9.6 12.1 10.7 8.0 10.6 8.3 10.2 6.5	3 41 3.71 1.90 1.70 2.54 5.00 2.75 3.40 3.54		0,63 1,05 0,32 0,47 0,82 1,61 0,32 0,65 0,60	15 12 8 18 12 19	12 12 18			4
East Kootenay																				
Akamina Cranbrook Tobacco Plains (Elko). Wilmer	49 49 49 50	30	115 50 115 5	2684	02 3 06 3 29 5	+ 3	17		18-22 14 22	9 0 11 0 7 0	27 27 28	15.2 9.1 11.1	1.16 2.57 0.95	+0 6	0.57	8 5	21 21 22 3	2	1	1 + .
Thompson River																				
Ashcroft Enderby Kamloops Nicola Lake Pemberton Meadows Salmon Arm Salmon Arm Tranquille	50 50 50	) 41 ) 9	120 29 120 39 119 35	1152	36 9 35 7 37 7 35 1 35 6 36 3 36 4 38 9	+ 2 1 + 2 1 + 2 1	1 22 7 17 1 1 1 6	52 6 57 0 55 0 50 0 48 0	13 13 5-23 6 17 17-18	18 0 21 0 20 2 20 0 14 0 21 0 24 0	27 27 26 5-30 30 28 28 28	16 6 10 9 10 7 14 8 11 2 10 9 11 0 10 3	0.56 11.96 0.85 11.26 7.95 2.41 2.06 0.14	+0.8 2   -0.3 2   +0.1 -	$0 \pm 0.19$	16 11 4 20 13	5   14 1   19 1   26 1   10 3   13 9   21	6		
North Columbia River																	-	-		
Glacier Golden Revelstoke	51 51 51		118 6	4072 1476 2550	27 2 29,9 34 5	+ 1 5 + 1 5 + 0 1	110	45.0	19	8 0 9 0 17 0	26 28 28	10 6 10 8 11 1	10.97 2.10 5.98	$\begin{vmatrix} +2 & 2 \\ -0 & 7 \\ +0 & 5 \end{vmatrix}$	7 1 30 3 0 8 4 1 00	8	3 2:	2	1	İ

TEMPERATURE AND PRICIPITATION AT STATIONS IN THE DOMANION OF CANADA, NOVEMBER, 12.

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				_				F1 30	9 10431	I.F			F1.1	· HTTA	TION	ž				
SIATION		Latitude N	I ougainde W	Hevation above ser level, in feet.	Мемп	Difference from	Yr's Observations	Dighest	Parter	1.181.84	Dane	Mean daily range	Amount	Difference from average.	Heaviest fall in month,	Davewith 0 Lormo	No. of fair days	No of auroras.	No of thunderstorms	No. of fors
BRITISH COLUMBIA COR													_			-	_	_	_	_
North Coast		,	u 1																	
Bella Coola Khtada River Prince Rupert Støwart Terrace	52 54 56			150 170 215	37 5 41 1 33 0 31 4	-1 o	13 - 3 - 2 1	52 0 53 0 46 0 45 0	1-27 1-5 1-5	26 0 26 0 15 28 0	15 10 9–30 10	10 m 2 d d 3 d d 3 d	5 4 1: 52 1: 66 70	-1 73	1 56 1 46 1 80 1 87	16 23 16 15	14 7 14 15			
Queen Charlotte Islands																				
Ikeda Bay Massett	52 53	17 55	$\frac{131}{132} = \frac{7}{9}$	30 30	45 0 40 0	+ 0 h	.5 15	30 ti 11 Dě	3-2h 1	30 to	N-11	11.2	\$ 70 4 39	1 03	1 25 0 75	18 21	12			
Tukon Boundary																				
Atlin Yukon—	59	35	133.38	2240	24 6		7	38.10	16	- ""	(0)	` `	11.64		0.50	3	27			2
Carcross Dawson	60 64	11	134-34 139-29	2171 1200	22 9 1 4		5	41 0 55 H	1 16	-11 0 45 0	30 30	12.7	1 12		$\begin{array}{c} 0 & 23 \\ 0 & 45 \end{array}$	6	24 24			1
MACKENZIE																				
Ft Resolution	61	Ð	113 0	500																
Alaeria — N. Saskatchewna River																				
Campsie	54		114 42		26.9		1	55.9	12	- 1.5	15	21.2								
Campier Daysland Edmonton Citt Edge Halkirk (Emsburg) Loveland Pakin (Victoria) Ranfurly (Wattefield) Sion Wetaskiwin	55 53 52 52 52 52 54 53 53	52 33 0 59 17 30 29 54 58	114 12 112 1, 113 30 112 0 110 43 112 10 111 59 112 31 114 38 114 15 113 23	2158 2795 	27 9 4 6 28 4 5 7 0 28 4 5 7 0 26 27 0	+ 6 2	2022 333314	53 0 54 0 50 5 45 0 48 5 48 1 58 0	19 17 15 17 17	- 1 2 0 - 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30 30 30 30 30 30 30 30	15 5 16 4 17 3 15 7 17 2 17,9 17 8 19 2	0.50 0.40 0.54 0.05 0.05 0.05 0.05		0.12 0.35 0.13 0.15 0.30 0.05 0.10 0.30 0.15	33555	25 26 23 27 27 25 25 25		:	1 1 3
The Red Deer River																				
Alix Delin Didabury Harmattan Hillsdown Lacombe (Ex. Farm) Oyen Red Deer Threehills Crock	52 51 51 51 52 52 52 52	24 35 40 45 14 58 16 30	113 40 112 25 114 8 114 23 113 29 113 44 113 44	3500 2806 2783	30 0 30 0 33 5 30 2 31 1 30 4	- 3 6 - 3 6 	11 6 5	36 (1 50 7 56 H 58 (1 56 5 38 3	13-17 13-17 18 17 17	\$ 0 9 5 6 0 5 0 3 0 2 9	12 26 40 15 30 30	21 0 18 2 19 0 25 9 18 7 20 9	0 56 0 55 0 70 0 25 0 96 0 96	+0 08	0 20 0 20 0 30 0 40 0 30 0 30		25 25 26 26 22 25			
The Bow River Brooks. Calgary Cardston	50 51 49	34 2 12	!11 54 114 2 113 18	3389	32.2	-6.6	i7	58 ñ	17	11 0	- 112.	21-1	ti ha	0.04	n'an	5	15			
Furman (Playle Creek) _ Gleichen ,	50	59	113 15	2952	33 6		91	55.0	19	h. 0	.30	22.4					• •			
High River Lawrence (Parkland) Lethbridge Lethbridge (Exp Farm ) Macleod Medicine Hat Pucher Creek Strathmore Sundial	50 50 49 49 49 50 49	35 16 42 43 44 1 0	113 53 113 26 112 51 112 51 112 51 113 24 110 37 114 4	3394 2961 3128 2161 3750	28 5 34 5 36 4 38 5 32 6 31 9 35 5	+ 7 7 + 10 1 - 6 2	15 15 28 16 17	48 0 55 7 57 5 60 0 56 8 60 0	19 24 18 18 17	2 0 11 7 12 0 8 0 5 0 9 0	30 30 11 30 30 24-29	18 9 22 7 15 6 21 0 17 5 21 9 21 5	0 80 0 90 0 70 0 20 0 18 0 90 - 20		0: 60 0: 66 0: 50 0: 14 0: 06 0: 50 0: 20	4	27			
Rocky Mountains																				
Banff Blairmore	51 49	10 <b>4</b> 0	115 34 114 30	4542 4225	28.2	- 4.2	17	47 ×	Lo	- 7	26	1.4	1.41	0.27	0.54	10	20			
Athabasca River																				
Athabasca Landing Lunnord Pembina	54 54 54	43 33 12	113 17 114 19 114 0	1650	27 2 25 9 27 4	=	9 3 5	$\frac{51}{55} \frac{0}{2}$ $\frac{5}{58} \frac{0}{0}$	17	$^{-3}_{-16} \stackrel{0}{_{0}}$ $^{-16}_{-22} \stackrel{0}{_{0}}$	30 20 13	18 I 17 I	1 p2		0. 22 0. 02 0. 20	1 1 3	29 29 27			
Peace River																				
Beaver Lodge Dunvegan Fort Vermilion Fort Vermilion (2) Feace River Crossing Spirit River	55 55 58 56 56	20 56 27 15 40	119 24 118 35 116 3 117 15 118 47	1305	25 8 20 8 16 6	· —		50 0 44 0 41 0	15 15	7 0 - 15 9	30 21 30	15.4 16.7 18.9	0.55 0.75 1.12		0 20 0 25 0 12	4 4	23 26 26	1		

							Темры	RATURE.				Prec	TETTATIO	N.	more.			S	
STATION	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean	Difference from average.	Yr's observations	Bighest	Date.	Lowest.	Date	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month	<u> </u>	No. of fair days	No. of Auroras	No. of thunderstorms	No of foer
Saskatchewas -				٠															
Qa'Appelle Rever	•																		
Brownfull (Grenfell) Brownfee	50 2 50 4	3 102 53 5 106 0	1957	27.4	+ 8 1	13	56 0	3	8.0	30	20 0 16 3		-0 43	0.50		28 28		• •	
Buchanan Crescent Lake Estevan	50 5 49 1	9 102 25 2 103 4	1658 1858	27 4 28 1 32 0	+13 2 + 5 0	9 13	49 8 55 2 60 0	18 10 10	7 5 9 6 1 0	27 27 30 27	19 9 20 5	0 12 0 08 0 20	-0 94 -0 19	0.07	2 1 3	13 29 27		÷	i
Fort Qu'Appelle Hubbard (Drumague)	5 <u>1</u>			30 4	_	1	61 2	9	7 19	27	20-2	0.21		0.15	3	27			
Humbo <sup>l</sup> dt Imperial Indian Head	52 1 51 2 50 2	2 105 23	1924	29 1 29 4 28 9	+ 5 9	$\frac{2}{21}$	53 0 54 0	9 3	-5.0 $-5.0$ $-2.0$	27	20 0 18 9	$\begin{array}{c} 0.18 \\ 0.35 \end{array}$	-0 43	0 13 0 15	3	$\frac{28}{27}$		** 1	• •
Kamsack Manor	49 4	3 102 2	2064			2 17	60 0 64 0	16	- 2 0 S 0	27	18 9	0.20	-0.23	0.20	$\frac{1}{2}$	29 28		::	
Moose Jaw Moosomin Muenster (St. Peter's Mon.)	50 52	1 105 35 0 101 37 0 105 0	1759 1884 1870	$\begin{array}{ccc} 33 & 2 \\ 29 & 5 \\ 27 & 4 \end{array}$	+12 2 + 5 4 + 7 3	10 6	65 0 50 0	19 9	5.0	24-29 28 27	$\begin{array}{ccc} 23 & 7 \\ 20 & 3 \\ 12 & 9 \end{array}$	0 06 S	0 60	8	112	30	1	::	::
Pilger Pense (Gatesgarth )	52 2 50 2 50 3	25 105 9 20 105 0	1879 2115	26 7 31 0 30 6	+10 S + 9 6	2 14 28	47 0 64 0 60 0	18 10 9	$-\begin{smallmatrix} 6 & 0 \\ -5 & 0 \\ 7 & 0 \end{smallmatrix}$	80	15 4 24 9 19 4	0 22 0 05 0 48	-0 51	0 15 0 05 0 20	1 '	28 29 26	::		
Qu'Appelle Quill Lake Regina	50 ±	4 104 14 27 104 37	1600 1885	27 H 29 2	+10.1	27	44 0 55 0	17 17	5 8	27 26 27	14 5 21 5	0 14	-0 43	0 12 0 05	3	28 27		::	
S(rassburg Yarbo (Fairfield) Yellow Grass	51 50 3	5 104 57 39 102 4 19 104 9		20 1			titi ()	0	1.0	30	24 9	0.20		0.20	,	29			
Yorkton .	51 1	1 102 29		30 4 28 5	_	3	53 0	11	9.6	11	20 1		-	-					
S. Saskatchewan Biver Chaples	50 3	26 106 39	2202	29.9	+ 7 7	28	59.0	9	- 80	30	24.7	0.10	() ()9	0.10	1	29			
East End (Divide) Larchmount (Glenbryan) Nashlyn (Kelvinhuist)	49 3	31   108 49 21   109 29		31.9		4 2	55 2 59 0 57 0	9-10	5.8	30 27 27	20 1 26 3 26 7	0 13 0 20 0 25	=	0 08 0 20 0 25	1 3 1	25 29 29			:
Nashiya (Kelvinimist) Olivor Rathimullen -	49 5	16 108 10 54 107 27 20 108 57 20 107 45	1.44	30.8		3	52 (t	18	4.5	30	22.5	0.12	_	0.07	3	19			
Swift Current,	50 :	20 107 45	2439	54.5	+74	26	59 0	10 13	11.0	27	17 0	0 22	- 0 43	0.08	5	25			
V. Saskatchewan River Battleford	52 4	H 108 20	1620																
Lloydminster Luseland Omon Lake.	53 1 52	18   110   0   5   109   34   52   109   59	: 1	26.4	-	3	45.5	1	10.0	28	18.9	0.10	_	0.10	1	29			3
Prince (Meota)	51	6 108 20	1760	23 2 18 7 27 0		5	$\frac{40}{47} \frac{0}{0}$	18 17	$-\frac{1}{5}\frac{0}{2}$ $-27$	27 29	$\begin{array}{c} 17 & 9 \\ 16 & 5 \\ 23 & 5 \end{array}$	0.58 0.20 0.85	-	$\frac{0.40}{0.15}$	3 2 3 1	9 28 27	::	Ξ,	4
Scott (Ex. Farm) Waseca		59 109 30 6 109 29		$\frac{27}{21} \frac{6}{6}$	-	1	37 0 41 0	15-16 17-18	-27 0 - 8 0	301	23 5 14 1	0.85	=	0 50	. 1	27 29			
The Suskatchewan Forks																			
Chagoness (Star City) Duck Lake Mellort	52 3 52 3 52 4	32 104 13 54 106 20 47 104 30		46.1	_	7	46.0	16	7.0	30	14.3	0.34	_	0.20	3	27			
Prince Albert Rosthern	53 53	10 106 0 40 106 29	1432 1657	26 1 25 7 24 0	+ 7 3	- 2	55 2 41 0	3 18	7 0 9 0 0 0	30 27 29	14 3 15 3 17 5 14 9	0.90	-0.07	0 70 0 45	3 2 2	27 28 28	::		
Saskatoon Lower Suskatchewan River		15 106 30	1571	28.5	+ > 7	11	46 2	18	10.7	27	14 9	0.45	—0 H5	0.40	2	28			
Cumberland House	53	56   102 16		11															
Lost River Manitoba—	53	17 104 21		23 9		2	50-0	13	5.0	30	15-9	_		_			•		
Qu'Appelle and Assini-																			
boinc Rivers Aweme (St. Albans) Boissevain	. 19 50	42 99 33 25 101 1	1703	29 6	+ 1.5	28	54 ()	15	4.5	27	18-3	0.26	-0.49		5	25		11	3
Brandon . Carberry Carman	49	51 99 57 52 99 20 31 98 0	1176 1258	29 4	+ > 1	25	54-6	18	4-6	24	19 6	0.10	-0.71	0 10		29			1
Cypress River Hillview	49	33   59   3 55   100   33	1232	29.0	+ 9 2 + 7 3	27 29	35 ()	3 3	7 0 3 7	27	16.2	0 30 0 29	0 92		. 2	28			2
Minnedosa Ninotte Ninga	50 49	15 99 50 24 99 38 14 99 51	1363	28 4 32 8 20 4	+ 9 2 + 7 3	29 1	52 6 65 6 52 1	3 19 19	3 7 5 6 5 4	27 27 27 28	15 8 21 7 15 0	0 29	- 0.73	0 20	4	26			
Pierson Pipestone	49	11   101   5 34   100   58	1531		_					211					×	30			
Portage la Prairie Portage la Prairie (2) Russell	49	57 98 17 56 98 17 59 101 20		29 3 27 9	+ 6 3		53 0 61 0	19	9 0 3 0	30	13 9 16 6	0.00	-0.59		1	29			::
Souris Treheine	49	36 98 40	1212	29 9 30 5	+ 90	1	53 3 52 0	18	5 2 9 0	24 27	18 4 12 9	0.09	=	0 08	2	30 28	i		3
Virden  The Red River	\$4	51 100 55																	
Almasippi Mordon Oak Bank	19	14 99 20 11 98 6	978	29 3 29 6 28 3	- 0 5	9	51 0 45 0 46 7 48 0	18 19	5 0 7 0 15 3 10 0	2 27 3-27	13 7 11 9	0 05 T	7000	0 05 T 0 15	1	29 30 29		:.	3
Stony Mountain Winnipeg	50	57 96 42 40 97 14 53 97 7	803 760	29 6 28 3 27 2 28 8	+ 1 2 4 + 7 4 + 7 4	16 30 37	48 0 49 3	18-19 18-19	15 3 10 0 13 8	3-27 2	9 3 16 6 10 2	0.15 0.11	0 97		5	25		4	

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STATION	:	Latitude N.	longitude W	Elevation above sea level, in feet.	Mesn	Difference from average	Yr's observations	Inghest	Date	Lowest	Date	Mean daily range	Amount	Difference from average.	Heaviest fall in month.	Days with .01 or more	No of fair days.	No of auroras	No. of thunderstorms	No of fogs.
Manitoba- Continued	_						_								= -	Ξ	=	Ξ	_	
Depution Lake and River Dauphin Moose Horn Bay) Artkens- ville) Berens River	51 51 72	, 15 18	160 2 99 33 37 23	957 710	30 2 28 4 25 2	_	6 3 5	53 U 54 4 44 0	18 19 19	10 0 10 1 3 0	27 : 30 : 28 :	16 2 13 0 11 1	1 0 29 0 40		T 0 105 0 15	5 4	30 22 26			2
Lake Winnipegosis Swan River Le Pas	52 53		int 15 int 15	1112 860	22.3	_	.;	36.0	2	- > 0	29	12.4	1 65		0.80	9	21			
Ontario-																	-			
The Lake Superior Districts																				
Rainy River Kenora	49	4.	94 32	1102	28 2	+ 3 6	11	45.0	19	15.0	29	4 .	Т	1 21	Т	0	30			, .
Thunder Bay Kakabeka Falls Port Arthur. Schreiber	48 48 48	29 27 50	89-26 89-12 57-15	912 644 933	27 7 30 4 29 1	+ 3 5 + 3 0	32 10	51 0 48 0 48 5	4-10 4	-3 0 3 0 -4 2	25 25 25	15.7 13.5 15.1	0 79 0 42 0 62	-0.81	$\begin{array}{c} 0.21 \\ 0.14 \\ 0.26 \end{array}$	6 7 7	24 23 23			
Algoma Bruce Mines Copper Chiff Fort Frances Porcupine Providence Bay White River	46 46 48 45 48	18 30 27 40 35	83 55 80 59 93 30 82 14 85 16	595 1252	33 6 31 0 31 8 25 0 33 0	+ 0 6	14 5 6 2	53 H 52 U 52 H 43 U 53 U	5-11 11 21 4 5 11	$= \frac{50}{20} = \frac{20}{70}$	28 28 28 28 28 28 28	15 2 14 7 13 6 17 4 17 1	1 73 2 44 0 69 0 04 2 20		0.42 1.00 0.25 0.15 0.64	8 8 3 9 6	22 22 27 21 24			-
Nipissing Cochrane Haileybury, Montreul River	49 47 47	29 8	51 0 79 39 79 29	946 687	23 0 29 4 29 5	· 1 3	21 21	45 0 52 4 55 0	4 5 11	5 5 5 7 2 0	30 28 28-30	12 0 11 7 16 0	0 57 1 41 0 83	— <u>1</u> 19	0 30 0 25 0 45	4 16 3	26 14 27			
Upper Ottawa River Rutherglen (Lake Tulon) - Stonechiff (Rockliffa)	46 46	15	74 48 75 6	557	31 3 30 S	+ 1 4 + 1 4	18 23	59 5 52 0	11 21	2.0	25 25	12 S 11 9	2 00 2 12		0 55 0 98	5 9	25 21			1
Upper St. Lawrence and Lower Ottawa Rivers Almonte Bloomfield Hillier Kingston	45 43 44 44 45 45 45	12 59 13 56 8 26 26	76 13 77 21 76 29 75 57 75 43 75 42 76 39	340 260 285 294 416	34 8 39 5 46 2 38 9 34 8 34 0 34 0	+ 2 × + 2 7 + 2 7 + 1 7 + 0 7	1 13 1 38 3 10 30 23	62 2 60 0 66 0 57 8 61 0 59 0 58 2	6 7 20 6 6 6 5	$\begin{array}{c} 1 & 7 \\ 19 & 0 \\ 27 & 0 \\ 20 & 6 \\ -3 & 0 \\ -6 & 0 \\ -2 & 0 \end{array}$	25 28 3 3 29 29 24 25	12 0 12 2 14 9 12 9 15 3 	4 41 2 73 1 01 3 65 5 58 6 69 3 51	+1 06	1 24 0 94 2 35	6 9 8 15 8	24 21 22 15 22 18 22			1
Georgian Bay Counties Hartree Heattree Colingwood Gravenhurst Huntsville Midland Markdale Orilia Orilia Parry Sound Parry Sound Ronville Shelburne Uplands	44 45 44 44 15 44 44 45 45 45	23 8 38 31 54 19 44 37 34 19 15 5 48	79 41 79 20 79 40 80 2 74 20 79 8 79 53 	839 800 600 750 775 597 635 1038	33 2 36 2 38 4 33 5 37 2 36 5 34 6 33 7	+ 2 3 + 2 3 + 5 4 + 1 3 - - + 4 4 + 1 0	37 23 18 41 6 5 1 21 36 5	58 0 58 0 69 0 58 0 58 0 59 0 59 0	13-21 12 14 11 11 	1 0 7 0 15 0 6 0 15 0 7 0 14 0 12 0 12 0	55556   85 55 5	13 5 15 2 14 1 16 0 11 5 15 9 14 4 1 12 5 1 18 1	5 59 4 65 5 50 2 54 5 41 5 36 4 59 3 05 2 79	$ \begin{array}{c} +0.91 \\ +0.25 \\ +2.14 \\ -0.64 \\ +1.83 \\ +0.59 \\ - \end{array} $	1 60 0 95 1 58 1 45 1 45 0 76 1 25 1 78	10 12 12 13 6 14 12 17 9	20 18 18 17 24 16 18 13 21		1	
Lake Huron Counties Birnam Clinton Goderich Lucknow North Bruce Point Clark *Sarnia Southampton	43 43 43 44 44 42 44	2 32 45 56 23 5 59 30	81 55 81 37 81 41 81 30 81 25 81 44 82 24 81 21	908 595 586 656	39 0 37 4 38 3 36 1 37 7	+ 2 6 + 2 5 + 2 3 - 0 8 + 1 5	28 10 22 26 24 36	50 5 50 0 59 0 58 0 58 0	11 12 12 13 11 11 11 -	1 18 5 22 0 25 0 14 0 27 0	28 28 29 25 3-30 28	10 4 11 7 10 1 12 7	4 04 5 66 5 46 7 40 6 38 3 52 5 97	$ \begin{array}{c} +1 & 96 \\ +3 & 06 \\ +3 & 18 \\ +3 & 15 \\ +0 & 99 \end{array} $	1 27 1230 1 13 1 47 1 62	9 15 17 20 15 3	+ 15 27		1 1 1 1	2
Lakes St. Clair & Erie,												1							1	
Nlagara Peninsula Cottam Cottam Grimshy Peles Island Port Burwell Port Daver Port Stanley St. Catharines Stoney Creek Wallaceburg Welland Windham Cantre Windsor	42 42 43 41 42 42 43 43 43 42 42	50 39 27 40 9 13 35 59	82 12 82 45 79 36 1 82 35 80 55 80 18 81 13 79 17 79 45 82 24 79 17	595 806 585 592 635 592 347 292 577	39 9 39 4 41 2 45 3 40 0 39 3 39 7 41 5 38 4 40 6	+ 1 3 + 0 1 + 6 5 + 2 7 + 1 7 + 2 2 + 3 6 - 2 4	25 34 36 36 38 28	67 0 65 0 62 0 76 0 58 0 63 5 56 3 62 0 56 0 56 0	11 11 6-11 10 12-20 12 13 11 12 1-3 6	19 0 11 0 20 0 30 5 16 5 17 0 18 5 22 0 22 0 19 0	25 15 27 3 25 5 25 15 25 25 3 29 5 3 29 5 3 29 6 20 20 20 20 20 20 20 20 20 20 20 20 20	14 6 24 3 13 9 10 0 12 0 13 4 11 5 4 11 5 13 1 20 5 12 2	1 90 2 70 2 0 2 0 1 8 2 80 2 3 1 9 2 4 2 3	1 -0 57 1 -0 70 2 +0 00 -0 70 -1 13 3 -0 6	3 2 00 1 00 3 1 46 0 71 5 0 75 0 96 2 0 82 2 15 7 6 77	3 6 8 3 8 11 8 7 3 9	24 22 27 27 29 19 22 23 27 21		1 1 1	

 $^{ullet}$  Stations not furnished with Registering Thermometers,

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STATION	Z alimenta I	Lauran	Lonettude W.		Elevation above sea level in feet	Megn	Difference from	Yr's Observations	Highest.	Date	Lonest.	Date	Mean daily range	Amount	Difference from Average	Heavest fall in month.	Days with 01 or more	No of fair days	No. of aurorae	No of thunderstorms	No of fogs.
OSIARIO-Continued-																	,				
West-Central Counties																					
Alton, Brantford Flore Cuelph Listowel. Lomion Paris Stratford Woodstock	13 41 41 41 41 41	51 10 41 33 59 12 23 8	0 80 80 80 81 80 81 80 81 80 81	5 21 24 16 13 25 0 47	1259 750 1274 1059 808 840 1191 980	33 5 39 1 36 4 38 0 36 4 39 2 39 7	$\begin{array}{c} \pm \ 0 \ 5 \\ + \ 2 \ 5 \\ + \ 3 \ 0 \\ + \ 3 \ 2 \\ + \ 4 \ 5 \\ + \ 2 \ 3 \\ + \ 3 \ 3 \\ \end{array}$	26 30 16 27 15 28 24 40	60 2 62 0 61 0 59 0 56 0 62 0 60 0	12 11 11 11 11 13 11-12	18 0 17 0 21 0 12 0 18 0 21 0	4554545	17 9 15 4 13 0 11 9 13 5 14 0 12 6	4 54 1 67 4 18 2 20 3 48 5 31 2 60 2 31	$\begin{array}{c} +1 & 67 \\ -1 & 01 \\ +1 & 04 \\ -0 & 04 \\ -0 & 02 \\ +2 & 48 \\ -0 & 64 \\ -2 & 52 \end{array}$	1 65 0 89 1 55 0 30 1 05 1 73 1 13 0 89	9 3 14 6 11 13 13	21 27 16 24 19 17 17		i	
Lake Ontario Counties																					
Agincourt Aurora Hamilton Osleiwa Foronto Foronto Is (Lakesale Home) Usbridge Wexford	43 43 43 45 45 44 41	47 57 16 53 40 40 5 44	79 79 79 79 79 79 79 79 79	16 24 54 52 24 24 24 17	590 886 303 331 350 886 555	38 4 35 2 39 0 40 5 42 0 36 1 36 8	+ 37 + 31	11 71 7	59 3 57 0 60 0 59 2 58 0 56 0 57 0	5 11 5 6-12 11 21 5	16 8 12 0 18 0 22 8 24 0 9 0 16 0	45 55545	13 6 13 1 14 5 12 8 13 1 11 3 12 3	2 71 3 25 3 22 2 46 	-0 14 +0 68 -0 19 -0 17	0 99 1 45 1 24 0 66  0 95 0 67	9 9 6 11 15 7	21 21 24 19 15 23			9
East-Central Counties																	,				
Buncroft Halbburton Kumpant Lakeheld Laudsay Madoe Varwood Peterboro' Usa	15 45 44 44 14 44 44	$\begin{array}{c} 1 \\ 45 \\ 25 \\ 20 \\ 30 \\ 17 \\ 54 \\ \end{array}$	75 78 77 78	50 28 38 15 45 29 19 18	1050 920 850 872 575	32 3 33 8 37 7 36 0 37 0 36 9 32 5	+ 1 8 + 2 5 + 3 5 + 3 5 + 6 2	28 24 29 33 9 1 42 5	57 0 59 0 57 5 61 0 73 0 58 0 56 0	11 11 11 11 12 12 12	$\begin{array}{c} -\begin{array}{c} 2 & 0 \\ 2 & 0 \end{array} \\ 47 & 0 \\ 13 & 9 \\ 10 & 0 \\ 10 & 7 \\ 9 & 0 \\ 20 & 0 \end{array}$	30 S 20 2 S 20 2 S 20 2 S 20 2 S 20 2 S 20 2 S 20 2 S 20 2 S 20 2 S 20 2 S 20 S 2	12 0 11 2 14 4 14 4 12 1 14 1 16 8	2 23 2 93 3 79 3 53 3 57 3 57 3 72 2 29	-1 09 +0 10 +0 95 +0 29 -1 14	2 23 1 02 1 32 1 03 1 20 0 90 1 13 0 57	1 6 9 15 9 10 9	29 24 15 21 20 21 20			4
QUERRC-																				1	
Middle St. Lawrence																					
Brome Cap Rouge D'Israeli Montreal Quebec . Ste. Anno de Bellevue Shawimgan Falls Sherbrooke .	45 45 45 46 45 46 46 47	10 46 55 30 48 27 34 32	72 71 73 73 74 73 72 72	36 18 21 35 13 59 43 5	678 896 187 296 1	34 4 30 9 32 3 34 8 30 4 35 5 28 3 31 2	+ 17 + 17 + 11 - 05 + 26	32 0 0 0 8 & 7 H 10	59 0 55 0 50 2 48 2 77 0 44 0 60 6	11 6 6 12-24 1	7 0 10 2 1 0 16 2 9 4 12 5 - 2 0 13 4	29 29 29 29 29 29 29	11 0 15 7 9 9 9 2 11 1 13 2 11 4	3 80 4 97 4 26 5 48 4 59 5 02 1 93 2 77	+0 46 	2 25 1 17 2 22 1 99 1 34 1 57 1 01 0 79	8 17 9 15 16 11 13 19	22 13 21 15 14 19 17 11	•	1	1 2 8
Lower St. Lawrence & Gult																					
*Anticosti E Pt Anticosti, S W Pt Anticosti, W Pt Bicquet Cape Clutte Cape Clutte Cape Tout	47 47 45	52 25 6 16 31	61 68 66 65 68	32 53 45 20 19	30 30 93 20	29 8 29 6 30 2 30 8 30 5 30 3	- 1 E - 0 S + 0 I - 1 0 + 0 0 + 0 S	32 30 31 31 31 35	47 0 43 0 50 0 57 0 54 0 56 0	5 6 6 6 6	10 0 12 0 17 0 20 0 19 0 13 0	29 14 14 30 20 16	¥ † ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	1 84 2 78 3 30 0 75 2 23 4 20	-0 94 +0 76 -0 67 +1 36	0 98 0 75 0 80 0 40 0 75 0 99	15 8 9 4 17 15	15 22 21 26 13 15			
Lake St. John																					
Chroutini Chroutini (2) Lake Edward La Tuque Vistossini . Roherval	47 47	25 39 27 54 31	71 72 72 72 72 72	5 48 15 13	150 1333 520 360 352	25 8 25 8 27 5 21 9		33 1 1	42 h 44 fi 46 fi 47 fi 48 fi	5-21 1 2-5 5	99 $-45$ $10$ $-50$	17-29 28 29 29 29	10 4 10 6 14 8 14 7	4 30 3 61 4 35 2 90	+2 59	0 73 	16 9 8 14	14 21 22 16	3		2
The Northwestern Districts																					
Abitibi Manouni Crossing Weymontachingne (Dam. V) White Shore Luke	45 45	33 54 12	79 73 75	9.2 50 43		25 4 24 3 25 6 24 9	+ 1 2 	17	44 0 42 0 45 0 48 5	6 22 5 12	$ \begin{array}{r} 5 & 0 \\ -13 & 0 \\ -5 & 0 \\ -13 & 5 \end{array} $	30 29 29 26	9 4 12 4 12 4 14 9	0 90 3 89 2 55 1 31	-1 00  	0 20 0 60 0 80 1 00	7 16 8	23 14 22 22	i	1::	:
The North Share																					
Clarke City	50	[1]	66	25																	٠.
New Brenswick - Chatham	47	.3	65	29	21	29.1	- 0 -	38	57 5	,	13.5	17	11.2	1 01	+0.82	1.58	12	. 18			
Continuo Dalliouse Fredericton Moneton Point Lepreury St. John St. Stephen Sussex Williamsborg	48 48 46 46 45 45 45	57 9 4 17	65 66 64 66 66 67	29 22 36 45 28 4 16 38	21 39 164 50 30 70 35 96	32 1 32 0 33 5 33 9 39 × 37 5 35 7 36 1 30 3	+ 3 3 5 + 1 1 1 - 0 6 6 + 2 3 7 + 2 3 7 + 2 7	36 37 15 34	43 0 64 2 67 0 56 0	67-131-2 X 1 8 9	18 0 11 5 15 0 24 0 21 7 15 0 13 0 9 5	17 17 28 29 29 17 17-30 17	11 2 14 7 15 9 10 8 17 3 15 4 12 8	4 64 2 20 4 60 2 75 4 86 3 93 3 85 4 21 6 84	+0.57	0 70 2 34 0 70 1 87 1 48	10 10 10 5 15 7 8	24 20 20 25 15 23			1

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, NOVEMBER, 12.

\*stations not turnished with Registering Theeminiete's

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			TUMPLEATUR		+CIPHATION	ė š
STATION	Lamade Lorentode	Buxe	Difference in Average  Average  Average  He hast	Lowest Date Mean dade name	Difference from average Heavest fall in	Days with 01 or more No of for days No of Auroras No of Thirdestorius No of thirdestorius No of fogs
Nova Scotts-	,					
Advocate Antigonish Halifax Kentville Merigonish New Germany	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7.1 47.1 88 40.1 40 35.4 90.1	1 65 2 59 6 1 1 57 63 7 1 65 6 1 69 6	1	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7 21 
Parrisboro' Port Hastings 'Sable Island, E. Pt Sable Island (Main Station)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	40 45 45 25 44 3	- , 7 21 48 0 - 0 6 22 57 0	15 1 1 1 S	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5 25 5 25 18 12 0
Sydney Truro • Whitehead Windsor Wolfville Yarmoutt	45 16 60 10 45 22 63 18 45 15 61 8 44 59 64 6 45 7 54 20 43 50 66 2	77 37 4 - 20 41 6 - 30 4 - 38 0 -		24 0 00 11 0 11 3 20 14 5 29 0 20 — 2 0 0 11 13 2 2 11 13 2 2 2 11 13 2 5 8 20 11 6	4 44 =1 00 0 86 5 63 +1 38 1 14 5 66 =0 73 1 00 5 91 =0 81 1 72	18 12 3 13 17 2 14 16 1 7 23 13 17 1 12 18 1
P. E. ISLAND-						
Charlottetown Charlottetown (Exp. Farm Hamilton	46 14 63 16 46 14 63 7 46 25 63 48	38 37 4 75 37 0 17 2	1 4 37 60 0 2 8 3 65 0 7 1 1 15 65 0 9	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	16 14 . 2 16 14 6 24
Newfoundland— *Amour Point Burin *Cape Norman Fogo	51 28 53 51 47 0 55 10 51 38 55 52 49 43 54 17	27 30 6 26 3	= 4 54 0 in 18	25 0 0 12 5 8 0 0 20 12 5	11 no - 2 25 1 69 - 0 70	21 9 4 22 1
*Point Riche Port aux Basques St. Georgo's St. John s	50 42 57 25 47 35 59 10 47 34 52 42	27 36 S 36 6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	18 0 14 - 23 5 30 9 0 25 6 29 12 6 22 0 30 12 5	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4 26 18 12 22 8 20 10
LABRADOR North West River BERMUDA Prospect	32 17 64 46	151 67 6	0.6 21 78 2 2-1	51.4 49 10.0	3 24 -1 08 1 00	. 10 - 20

### PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING NOVEMBER, 12.

	RAINFALL. SNOWFALL.								<u> 114.                             </u>	
STATIONS.	Amount in inches,	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month.	Date.	Amount in inches.	No. of Days	Heaviest Fall in Month.	Date	REMARKS
Виглян Содемви-								-		
Alkalı Lake Annis (Canoe Point) .	2.08	14	28 14	U 50 U 34	20 19	1 0 2 5	1 2	1.0	29 29	
Armstrong	1.75	10	18	0 36	3	16.0	- 3	15 0	30	
Akamina . Beaver Lake	5.26	14	16	0.94	20	11. 11. 1				
Barriere Valley (Louis Cr.) Coquitlam	11.48	13	17	1.36	11					
Cariboo Road No 141	10 72	21				1				
Ferguson	2-26	4	9 11	1 87 1 06	12 18	58 0	15	8.0	21	
Goldstream Lake .	11 35	23	7	1 85	22	1.0	i	10	$\frac{5}{29}$	
Hydraulie Liornby Island	11 63	24	6	2 57	12	0.3	1	0.3	10 3	
Invermete Jordan River	0 10	2	2.3	0.09	14	6.1	5	2.1	S	
Jordan River (Bear Creck).	9 77	23	6	1 15	6	5 0	1	5.0	29	
Little Qualicum Lumby	7 14 1 54	15	15 21	2 00 0 88	12 9	5.0	. 2	3 0	3	
Monte Creek	0.51	5	23	0.28	9	3.0	3	2.0	29	
Lumby Monte Creek Naas Harbour Rock Creek	11 93 0 77	10 5	17 23	2 71 0 29	22 8	6 5 3 5	3	2 0 2 5 2 5	16 2	
Shawnigan Lake Wychffe	S 30 0 66	22 5	22	1 63	21					
LBERTA		3		0.14	10	16.0	4	5.0	1-2-4	
Bardo Bismark						4 0 3 2	2 2	3 0 2 0	8 3	
Bruederheim .						1 .				
Bittern Luke. Brooks .	0.16	3	25	0.07	14	5 0 0 5	3 2	3 5 0 5	9	
Beaver Mines	0.30					5.1	2	4 1	14	
Coleman . Campsie	0.50	1	24	0.30	19	11 5	ā	6.0	8	
Cowley Caldwell	11.23	2	25	0.14	9	14.5	3	6.5	10	
Claresholm .	0.21	2	25	0.17	14	8.8	3	7.0	10	
Dorenlee Dunstable	0.01	,	2.5	0.01		4.5	4	7 H 2 H	10	
Grassy Lake Jumping Pound				·	13	2 0	4	11.5	30	
Jumping Pound Loch Sloy						14.7	5	6.0	8	
Lyndon		1				10.2	3	5.0	10	
Lineham La Pearl		100				12 3	1	12 3	10	
Lethbridge Macleod	0.23	1	28	0.23	14	5,0	1	5.0	9	
Mayeroft.	0.51		23	0.27	9.	15 0 15 7	4	7 0 6 0	7	
Mountain View Nateby						12 0	3	8.0	9	
Nanton						3.0	1	3.0	9	
Okotoka Pekisko	0.65		0.5	-11 05		2.0	j	2 0 .	10	
Ponoka		1 .	25	•H 65	9	17.5	1	4.0	14	
Sion Seven Persons						2.0		2,0	4	
Tilley							1			
Writing-on-Stone (Coutts) Waterion Mills	0.62	1	26 23	0 02 0 57	6 9	3 4 13 8	3 3	2.3	4 10	
Aberfeldy			2.,		.,	10.5		, 0	10	
Gull Lake						3.5	2	3.0	11	
Gull Lake Gull Lake (Fks. Swift Cur.) Last Mountain	0.05	1	26	0.05	- 6	3.5	.5	1.5	1-15	
			- 1			3.0	4	1.5	6	
Meadow Lake Mashlyn (Kelvinhurst) William Crash (Bassle Co										
						2.5	1	2.5	4	
ANITOBA— Cartwright						2.5	3	1.0	4	
Deloraine					- 1	3.3	3	2.0	4	
Norquay (Swan Lake) Rapid City						$\frac{1}{2}, \frac{0}{2}$	2 3	0.5 1.7	5-23 4	
Rose Bank stanio –						2.2	. ".			
Brantford	2.18	11	16	0.96	6	1.0	3	0.5	2	
Deer Purk Dutton	2 18 2 35 2 29	7	22 25	0.94	6	1.3	1	1.3	24 25	
Emsdale	2 17	5	19	1 25 0 87	- }	9.5	1 6	1.0 4.5	26	
Fort Frances Teorgetown	2.78		21	0.83		0.5	1	0.5	24	
irantham irand Valley	2 13	8	20	1 01	13	0.5	2	0.3	27	
MacCue	3 53	. 3	26	2 04		24 0	i	24.0	24-25	
Princeton . Sydenham				4.71						
Strathrov	2 65 3 94	2 5	27 22	1 35 1 51	7	$\frac{12.0}{4.0}$	1 3	12 0 2 0	24 18	
Vation1 Vestport	2 98 3 15	4	26 25	1.76	6					
Vestminster Vooler	4 01	4	25	1 12 2 41	7~13 1	18 0 . 8.0	1	8 0	24	
Vesley	2 S9 3 71	6 11	23 14	1.13 0.93	11	5.0	1	5 0 5 0	24 28	
Vattenwyl Viarton	1.10	2	21 20	0.97	6	14 5 22 0	7	9.0	1	
EBFC-	4 83	6	20	2 07	14	20.0	4	9.0	27	
Kipawa Dam a Jucerno	1.00	I	17	1 00	22 6-7	51.8	12	9.0	1	
erkins Mills	4 20 3 24	tj lj	21 .	3 20 2 00	6-7	3.0	4	15.	****	
Quinze Dam Firmiskaming	0.10	to a	26			19.0	5	6 ()	14	
W Bat Nawick -		1		0 19	6	11 0	3	5 0	14	
Point Escuminac .	3.25	5	22	1.94	8	6.5	3	4 1	14	
Big Mushamush Lake (Ms.					1					
hone: Sentville			.  -					×		
dilton .			: : : .		::. : :ll					
Jushamush River (Mahone) Vappan		9	20	0.87	8		1	0.5	29	
South Alton Vhite Rock	3 17 3 85 3 43	8 5	19			18.0	3	12 0	20	
	3 43	а	24	1 73	15	10 0	1	10 0	28	

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE PERST CLASS DURING THE MONTH OF NOVEMBER, 1912

a Birometer not reduced to sealers.

																			_					
				5		Press	FRE.		humaditv	lousi	completely			1+1	10 - 11	05-0	1.1/1	5 b F1	I/O3			V :	10 II 11 III	1 07
STATION	N Hamilton I			Elevation above sea level, in feet	Mean reduced.	Bighest	Lowest	Папре	Mean relative bin	1 Mean annunt or cloud	No of days comp	<i>/</i> .	72	Τ,	7	/	= ,	=	エン	ن	dotal number of observations	Mean miles per long	Maximon	Pate and direction
BRITISH COLUMBIA— Adin Barkerville Kamboops Outname Ropert Trinogle Island a Tranquille Vancouver Victoria	50 53 50 49 54 50 50 49 48	55 133 2 121 42 120 40 123 48 130 52 129 41 120 47 123 24 123	29 5	136	29 80	31 54 30 56 30 72 30 42 30 44 30 49 30 51 30 52	28 99 29 557	1 96	74 96 83 89 89	11 27/22/1	7 19 5 11 22 15 15	10 4 0 3 2 1 1 1 5	15 0 1 0 0 0	3 0 24 0 12 1 12 3	12 1 4 25 14 29 14	10 20 0	1	1231	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	51 -6 -25 -24 -0 -13	60 60 60 60 60 60 60	10 0 2 9 5 0 5 8 3 4 20 5 4 0 7 4	4) 10 30 6-	6 22 24 8 0 13 17W 7 2081, 5 2181, 2 581, 4 158W
YUKON— Dawson	1:4	4 149	20 1	1200	29-80	30 52	29 08 3	1 44		7	`	7	ii.	-	2	26		0.	1	52	ug	1.8	1.	2 168
VEBERTA— Bauli Calgary Edmonton Medicine Hat	5! 5! 53 50	10 115 2 114 33 113 1 110	34 4 2 3 30 2 37 2	1542 1389 2158 2161	2 ( 90 20 90 29 86 24 90	30 80 , 30 67 , 30 57 , 30 54 ,	2 + 52   29   50   29   46   29   42	1 28 1 17 1 11 1 12	68 72 71	.; -1 -1	1 1 2	1 1 1	1	0.23	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	47 15 12	4 9 16 34	0 19 5	7 16 4 0	60 60 60 60	5 1 4 2	45 28 26	5 168W 5 278W 5 27N W 5 27W
SASKATCHI, WAN— Buttleford Moose Jaw Prince Albert Qu'Appelle Swift Current	50 53 50	41 108 21 105 10 106 30 103 20 107	35 1 0 1 47 2	$\frac{759}{432}$ $\frac{115}{2}$	2+ 95 29-86 2+ 91 23-95	30 57 ; 30 43 ; 30 47 ; 30 58 ;	29 49 1 29 39 1 29 49 6 29 46 1	08 104 198 12	99 97 84 71	1 5 4	5 11 4	0 2 1 0	0 1	9 ; 1 0	11	1200	16 -1 15 28	22 5 5 32	11 3 17 12	27 40 0 1	90 60 60 90	6 5 5 8 1 9 11 3	25	27W 20W 21S 19NW 198W
Manitoba—  "Aweme (St. Alban's)  Minnedosa  Le Pas  Winnipeg	50 53	42 59 15 99 19 101 54 97	33 1 50 1 15	.180 699 860 760	25 73 27 94 24 90 24 96	29 24 1 30 52 . 30 39 1 30 48 .	IS 27 ( 19 42 1 29 37 1 29 43 1	1 97 9 1 10 1 102 1 105	80 91	5 i	15	1.55	1 11 2	2 1   4	15	1 .	1 12	13 20 10	19 7 19	59 0 2	96) 60 93)	4 2 7 5 11	41 30 25	20 N W 1 N W 5 N W
ONTARIO— Cochrane Halieybury Halieybury London London Ottawa Parry Sound Port Arthur Port Stanley Southampton Stomechiff White Kiver Woodstock	42 45 45 48 42 44 46 43	13 76 59 81 26 75 19 80 27 89 40 81 9 78 40 79 35 85	39 29 13 42 0 12 13 24 24 16	687 285 808 294 635 644 592 656 557 350 252	95 5 5 4 4 4 7 5 5 5 6 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	30 54 1 30,57 - 30 55 - 30 55 - 30 50 3 30 51 - 30 50 4 30 50 2 30 50 2 30 50 2 30 50 3 30 41 2 30 52 3	23 63 4 24 51 1 29 36 1 29 33 ( 20 42 1 29 53 ( 20 41 1 24 14 1 24 60 ( 24 32 1	1 94 1 02 1 09 1 97 1 09 1 80 1 81 1 81 20	77727789 2 2	2 / / 2 (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	\$ 14 11 12 16 16 11 14 17 2 9	11 10 5 2 1 7 19 0 10 10	4 3 11 9 3 15 0 2 9 1 3	1 1 15 1 1 1 1 1 1 1	111111111111111111111111111111111111111	10 12 11 0 0 0 10 10 10 14 14	4 10 15 15 15 15 15 27 23 0 12 <sub>1</sub> 17 <sub>1</sub>	12 18 18 19 19 22 30 0 18 21 19	10 15 12 25 4 12 27 15 19 4 12 27 15 19 4 12 27 19 24 25 27 27 28 28 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	127 0 0 1 1 4 3 0 2 0 0	(6) (6) (6) (6) (6) (6) (6) (6) (6) (6)	6 2 11 9 7 7 10 0 10 0 12 0 11 9 4 4 14 4 7 0	36 20 23 35 32 34 16 40	48 4N 13E 298W 23N 268W 9NW 9NW 13L
QUEBEC— Father Point Montreal Quebec	45	30.73	19: 35: 13 :	20 187 293	23 92 29 94 29 94	30 22 3 30 55 2 30 38 2	9 45 6 9 29 1 9 23 1	77 26 05	56 70 70 80	5 6 5	20 10 17	10 5 0	5 12 24	14	;	1	18] 29 19	29 24 37	7	2 0	90 90 90	16 4 15 8 15 5	4.5	SE 25 N L
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BERMUDA Prospect	32	17 64 -	ş6j 1	   151	30 15	30 46 2	75.0	71	70	6	,	.12	11	4)		17	4	11	ς.	0	tH] :	11.5	40	3 🕆

# FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF NOVEMBER, 1912

Athabasca Landung Dudsbury Enduang Halkirk (Emsburg) Halkirk (Emsb	1 0 0 2 5 0 0 0 6 1 0 0 0 0 0 0 0 1	1 0 1 3 2 0 4 4 2 3 2 3 0 1 1 5 5 0 7 7	1 0 1 1 1 1 1 2 2 2 1 1 0 9 9 0 3 0 0 1	1 1 7 15 11 0 0 19 1 3 3 8 8 10	3 3 3 12 6 2 1 7 9	6 11 18 10 12 4 16 8	16 12 10 0 9 43 11 24	1 3 10 16 6 6 8 16	0 0 0 0 8 0 9 7	Total num- 60 93 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Athabasca Landing Didsbury Endiang Halkark (Emsburg) Hillsdown Loveland Macleod Pakan (Victoria) Ranfurly (Waitefield) SKATCHEWAX Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain STARIO— Agincourt	0 1 1 0 2 5 0 0 0 6 1 0 0 0 0	0 1 3 2 0 4 2 3 2 3 0 1 1 5 0 7	1 1 1 1 1 2 2 2 1 0 9 0 3 0	7 15 11 0 0 19 1 3 3 8 10	3 	11 18 10 12 4 16 8	10 0 9 43 11 24	10 16 6 0 8	0 8 0 9 7	30 30 60 60 43 60
Didsbury Endiang Halkark (Emsburg) Halkark (Emsburg) Halkadown Loveland Macleod Pakan (Victoria) Ranfurly (Wintefield) SKATCHEWAN Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhil) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca ANTIOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain	0 1 1 0 2 5 0 0 0 6 1 0 0 0 0	0 1 3 2 0 4 2 3 2 3 0 1 1 5 0 7	1 1 1 1 1 2 2 2 1 0 9 0 3 0	7 15 11 0 0 19 1 3 3 8 10	3 	11 18 10 12 4 16 8	10 0 9 43 11 24	10 16 6 0 8	0 8 0 9 7	30 60 60 43 60
Endrang Halkirk (Emsburg) Hillsdown Loveland Macleod Pakan (Victoria) Ranfuriy (Waitelield) SKATCHEWAN Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain	1 1 0 2 5 0 0 0 6 1 0 0 0 0	1 3 2 0 4 2 3 2 3 0 1 1 5 0 7	1 1 1 1 2 2 2 1 0 9 0 3 0	7 15 11 0 0 19 1 3 3 8 10	12 6 2 1 7 9	18 10 12 4 16 8	10 0 9 43 11 24	10 16 6 0 8	0 8 0 9 7	60 60 43 60
Hillsdown Loveland Macleod Pakan (Victoria) Ranfurly (Waitefield) SKATCHEWAA Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain	1 0 2 5 0 0 0 6 1 0 0 0 0 0 0	3 2 0 4 2 3 2 3 0 1 1 5 0	2 2 2 1 0 9 0 3 0	15 11 0 0 19 1 1 3 1 8	6 2 1 7 9 0 7	10 12 4 16 8	0 9 43 11 24	16 6 0 8	8 0 9 7	60 43 60
Loveland. Macleod. Pakan (Victoria). Rafurly (Waitefield) SSRATCHEWAX- Chaplin Crescent Lake Estevan. Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin. Muenster (St. Peter's Monastery). Onion Lake. Pense (Gatesgarth). Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville). Morden. Oak Bank Stony Mountain.	0 2 5 0 0 0 6 1 0 0 0 0 0	2 0 4 2 3 2 3 0 1 1 5 0 7	1 1 2 2 2 1 0 9 0 3 0	11 0 0 19 1 3 3 8 10	2 1 7 9 0 7	12 4 16 8	9 43 11 24	6 0 8	0 9 7	43 60
Pakan (Victoria). Ranfurly (Waitelield) OSKATCHEWAN Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Moosomin Muenster (St. Peter's Monastery). Onion Lake Pense (Gatesgarth). Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville). Morden Oak Bank Stony Mountain NTARIO— Agincourt	5 0 0 0 0 6 1 0 0 0 0	3 2 3 0 1 1 5 0 7	2 2 1 0 9 0 3 0	0 19 1 3 3 8 10	7 9 0 7	16 8 10 3	11 24	8	7	
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Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca ANTOBA— Berens River Brandon Hillview Moose Horn Bay (Artkensville) Morden Oak Bank Stony Mountain	0 6 1 0 0 0 0 0	2 3 0 1 1 5 0 7	1 0 9 0 3 0	3 3 8 10	7	3	5		10	90
Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca ANTOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain NTARIO— Agincourt	0 6 1 0 0 0 0 0	2 3 0 1 1 5 0 7	1 0 9 0 3 0	3 3 8 10	7	3		<b>(·)</b>	0	30
Fort Qu'Appelle Grenfell (Brownhil) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery). Onion Lake Pense (Gatesgarth). Waseca ANTIOBA— Berens River Brandon Hillview Moose Horn Bay (Attkensville). Morden Oak Bank Stony Mountain. VYARIO— Agincourt	1 0 0 0 0 0	0 1 1 5 0 7	9 0 3 0	8 10			10	3	1	30
Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery). Onion Lake Pense (Gatesgarth). Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville). Morden Oak Bank Stony Mountain	0 0 0 0 0 0	1 1 5 0 7	0 3 0	10		2	2 15	3 7	7	30 60
Larchmount (Glenbryan) Moosomin Muenster (St. Peter's Monastery). Onion Lake Pense (Gatesgarth) Waseca ANTIOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain. NTARIO— Agincourt	0 0	5 0 7	Ö		4	17	6	12	0	50
Moosomin Muenster (St. Peter's Monastery). Onion Lake. Pense (Gatesgarth). Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville). Morden Oak Bank Stony Mountain	0 0 0	7		4	10	22	17	24	9	90
Onion Lake Pense (Gatesgarth). Waseca ATTOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville). Morden Oak Bank Stony Mountain VTARIO— Agincourt		,		1 6	1 2	$\frac{21}{12}$	17 6	15	0	60 30
Pense (Gatesgarth).  Waseca  ANITOBA—  Berens River Brandon  Hillview  Moose Horn Bay (Aitkensville).  Morden  Oak Bank  Stony Mountain.		,	0	0	0	9	O	4.4	()	60
Waseca ANITOBA— Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain	1	. 2	1	3	0	9	0	10	5	30
Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain		2	0	5	1	4	16	1	0	30
Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain  NTARIO— Agincourt	12	2	9	4	12	0	16	5	0	60
Moose Horn Bay (Aitkensville)	4	12	2	8	ī	26	13	13	11	90
Morden Oak Bank Stony Mountain  NTARIO— Agincourt	3 7	5	11	9	8	28	6	23 15	0 5	90 60
Stony Mountain	3	6	2	5	4	14	14	5	7	60
Agincourt	8	2	1 3	1 5	6 10	5 12	7 6	6.	0	30 60
Agincourt										
	ā	3	4	2	3	22	23	25	3	90
Alton	7 11	. 1	8	1 5	33 19	4 5	34	- 19	0 24	90 90
Birnam	2	0	0	4	23	8	5	15	3	60
Cottam	8 12	0	0 2	7	16 10	10 13	9 15	9	0	60 54
Gravenhurst	26	3	10	14	18	4	5	4	6	90
Lindsay North Bruce	14 15	2	9	14	13 35	13 12	9	11	21 0	90
Orillia	0	1 3	0	1	6	6	6	5	5	30
Point Clark				7	13	8	10	12		60
Port Dover	ĩ	1	0	o '	5	9	10	4	Ü	30
Stoney Creek Uplands	0	3 0	6 9	1 0	1	.22	13 7	14	0	90
Wexford	3	1	4	0	1	10	1	7	3	30
UEBEC— Abitibu	23	6	7	2	25	1	17	6	0	90
Abitibi . Anticosti, W. Pt. Anticosti, Heath Point	5	20	17	ī	4	8	17	18	0	90
Anticosti, Heath Point		27					18	11		90
Brome	3	4	7	1	13 20	12	38	4	1	90
Cape Chatte	0	12	20	0	1	5	42	0	10	90
Cape Magdalen Cap Rouge	3 7	6 8	9	5 0	7 0	4	11	32 15	13	90 30
Chicoutini Clarke City	0	19	0	13	0	0	0	8	46	86
Manouan Crossing										
ew Brunswick -										
Dalhousie Moncton	0	4	2	2	$\frac{0}{2}$	2	15 2	3 16	I I	30 30
Pt. Lepreaux	14	5	6	1	0	14	17	21	0	78
Sussey	1	6	1	0 '	0	3	1	2	16	30
Nentville.	3	- 1	4	1	4	4				
Parrsboro			•		,		- 8	5	0	30
Port Hastings Sable Island, E. Pt					,		8			30
Truro	0	4	0	10	0	9	8	 7	0 0	30 30

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF NOVEMBER 1912.

									Нос	BS ENI	DING							
STATION.	4 a B	5 л п.	6 a m.	7 a.m.	Sam.	9 a.m.	10 a m	H a.m.	Noon	I p m.	n d 7	3 p m	♣ p m.	S p m.	6 p.m	- P III	8 p m.	9 p m.
Victoria						05	16	24	22	21	15	(1))			1			
Salmon Arm						02	117	15	21	20	25	24	16	07	0.2			
Nanaimo																		
Vancouver						01	05	09	11	11	11	09	07					
Agaesiz							13	14	14	11	13	10	04					
Franquille																		
Summerland					Т	23	28	29	33	.32	-31	20	(15					
Kamloops.						ug	26	36	31	29	15	26	02					
Edmonton						06	27	35	17	13	45	31	05					
Lethbridge .					03	37	53	57	65	56	59	59	41	Т				
1.acombe						21	35	4.5	15	54	49	35	09					
Medicine Hat						. ×												
Fort Dunvegan																		
Fort Vermilion						06	17	19	26	37	.16.	24	14	02				
Battleford					09	47	114	64	63	61	58	58	19					
Indian Head						04	25	45	52	411	45	\$0	18	02				
Moosejaw						20	49	57	65	64	64	62	19					
Scott					08	24	34	43	47	46	37	14	10					
Rosthern						02	16	24	33	41	4.2	36	20	01				
Brandon .						17	26	41	55	5.5	54	30	06					
Winnipeg						04	25	39	38	38	28	29	17	01				
Halley bury					02	12	27	30	34	32	-5.5	29	20	02				
Woodstock						14	37	43	53	49	45	34	17	01				
Lindsay						02	31	4.5	45	40	40	34	17	02				
Barrie						19	34	34	37	14	35	22	0.5					
Toronto					01	21	45	4;	15	45	41	31	22	01				
Kingston						12	33	3.3	35	.(4	15	411	17					
Ottawa					02	20	27	35	43	4.2		39	31	4173				
Montreal					т	14	27	38	15	44	4.2	35	23	0.3				
Cap Rouge						01	10	15	16	16	14	12	03					
Quebec.						10	16		20	23	19	15	16	1				
Sherbrooke					υi	12	27			23	17	24	05	+				
Fredericton					02	23	37		51	48	16	42	3	0.5				
Churlottetown					02	20	27			28	12	.3.3	13	03			-50	
					-15	211		,,,,		-	-							

Victoria.	Salmon Arm.	Nanathio.	Vancouver	Agassiz.	Tranquille.	Summerland	Kamboop	1.dmonton	Lethbridge	Lacombe.	Medicine Bat.	Fort Dunvegan	Fort Vermitton	Battleford	Indian Head	Mouse Jaw	Scott	Rosthern	Brandon	; Wanaapeg	1 Harley bury	Wesdstock	Lindsay.	Barrie	Toronta.	Kingston	Ottawn	Montreal	Cup Rouge	Quebec	Sherbrooke	Fredericton	Charlottetown
33	12		19	23		60	58	72	129	59 .			54	133	<b>\</b> 4	121	85	64	- 55	4(1)	(j)	59	77	θñ	(4)	76	14	51	26	42	53	98	6-
12	16		7	9		22	22	25	48	34			23	52	31	45,	32	25	34	25	24	31	27	23	31	26	άų	31	ô	15	19	31	2
- 9	_			-10				_		_			-	~ 20	± 5				- 1	9		+ 5	+ 2	+ 3	. 2	- 2	+ 2	÷ 1		-	-	+ 1	-
44	67		43	ыU		50	74	81	59	83			<b>\</b> 5	93	74	80	91	79	<.‡	79	7.5	82	67	72	86	<b>3</b> 2	52	<b>\</b> 7	72	82	70	87	8
19	15		14	15		14	14	15	1	26			24	25	15	28	15	25	15	25	28	25	20	20	30	20	3	3	16	16	11	4	1
12	11		14	2.8		11	10	7	1	2			16	5	6	6	9	14	7	14		`	9	10	9	10	10	11	17	14	11	10	1
	12 9 44 19	33 42 16 12 16 44 67 19 15	20 Netrona Net	33 12 19 12 16 7 7 144 67 43 19 15 14 15 15 14	New York   19   19   19   19   19   19   19   1	12   16   7   9	12   16   7   9   12   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   14   15   15	12   16   7   9   22   22	10   10   10   10   10   10   10   10	10   10   10   10   10   10   10   10	Bell of the control of the c	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	10   10   10   10   10   10   10   10	10   10   10   10   10   10   10   10	10   10   10   10   10   10   10   10	10   10   10   10   10   10   10   10	10	19	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	19	10	12   16   7   9   22   22   28   18   34   23   52   51   45   42   25   51   25   24   24   46   67   43   60   50   74   81   80   83   83   85   60   74   80   91   70   81   70   70   70   70   70   70   70   7	12   16   7   9   22   22   28   18   34   23   52   51   45   42   25   31   25   21   41	19	33         42         10         23         60         58         72         120         59         5         5         133         5         14         15         6         7         10         23         60         58         72         120         59         54         133         54         121         85         64         85         60         80         77         66           12         16         7         9         22         22         28         48         34         23         52         31         45         25         21         21         21         21         22           9         -         -10         -	Bell Mark     Series	Bell Religion         Section         Section	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Better Bit Service         Better	B     H     B     H <th>Bit of the control of the co</th> <th>B     H     B     H</th>	Bit of the control of the co	B     H     B     H

# Thunder recorded:-

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6. Sooke.

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13. Wooler, Cottam, Birnam, Clinton.

# 14. Brantford.

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23.

24. 25.

26.

27. Parry Sound.

28.

29.

30.

Auroras recorded:-	
1. Aweme IV.	
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3.	
4.	
ā.	
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7.	
8.	
9. Aweme IV., Chicoutin	ii.
10. Treherne III.	
1I.	
12.	
13. Cartwright.	
14.	
15. Aweme III., White She	re Lake III
16.	
17.	
18.	
19.	
20.	
21.	
22.	
23.	
24.	

25. Chicoutimi.

27. Chicoutimi.

26.

28. 29. 30.

# FORECASTS FOR NOVEMBER 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1303 These were divided as follows:—

			VERIF	ED.	
District,	No.				
17101111(1,	Issued	No.	No	No	Per-
		Fully.	Partly	Not	centage
Alberta	78	63	15	3	89.1
Saskatchewan	77	n8	( )	1	93 5
Manitoba.	78	hī.	11	0	92 9
Lake Superior	121	90.	28	6	83 9
Lower Lake Region	121	99	16	8	87 0
Georgian Bay	125	91	21	н	82 5
Ottana Valley	104	81	17	h	86 1
Upper St. Lawrence	101	82	17	5	87 0
Lower St. Lawrence.	111	86	18	10	83 3
Gulf	122	89	23	10	82 4
Maritime Provinces West	123	36	19	× .	85.8
Maritime Provinces East	123	102	20	11	91-1
Total	1.03	1014	211	78	85.9

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto,

Dec. 26th, 1912.





# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVI.

DECEMBER, 1912

No. 12.

# INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United Stales, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

# TEMPERATURE.

# BRITISH COLUMBIA

At some points in the Kootenays on the 15th and 21st the temperature fell below zero, and on the Upper Fraser River on the 15th also. These were exceptional days and the mean temperature of the month did not differ greatly from average. Mean temperatures were about 38 on South Vancouver Island or about 1 lower than average; on North Vancouver Island, 39"; on the Lower Fraser, 38°, or 1" higher than average; on the Upper Fraser, 22°, or 4.5" lower; in the Okanagan Valley, 29 or 1° higher than average; in the West Kootenay, 28; in the East Kootenay, 24"; on the Thompson River, 29; on the North Columbia, 23; on the North Coast, 37°; on the Queen Charlotte Islands, 40.

# ALBERTA.

On the morning of the 1st temperatures from 10—to 30—below zero were registered, the lowest occurring in the Athabasca and Peace Rivers districts. During the last three weeks of the month the weather was remarkably mild in the sonthern and eastern—districts, the temperature remaining above zero during the whole period. The mean temperature along the Bow and Belly Rivers was 27° or nearly 7—higher than normal. Along the North Saskatchewan the mean was 21° or about 4 above normal; along the Red Deer River, 25°; and the Athabasca River, 18

# SASKATCHEWAN.

Temperatures below zero were recorded on about twelve days, the lowest -15 to -25, occurring on the 8th or 11th. During the first and last weeks, however, maximum temperatures ranging between 45° and 50° occurred. The mean temperatures were about 5 above normal, averaging about 12 along the North Saskatchewan and Qu'Appelle Rivers, and 20 on the South Saskatchewan.

# MANITOBA.

From the 13th to the 19th and from the 27th to 31st the weather was remarkably mild, but during the remainder of the month temperatures below zero were frequently recorded. The mean temperature of that portion of Manitoba lying along the Qu'Appelle, Assimboine and Red Rivers, was 12°, which is about 5° higher than normal.

# ONTARIO.

Temperatures in the districts of Algoma, Nipissing, Thunder Bay and Rainy River, were similar to those of Manitoba, while in Muskoka and Parry-Sound zero or lower was registered on 5 to 7 days, and along the Upper Ottawa River on 8 or more. In Eastern Ontario 5 to 10 below zero was recorded at some points on the 9th and 20th. In the southwestern portion of the province temperatures did not generally go below 10° above zero. The mean temperature of southwestern districts was about 30°, which is about 4° higher than normal. In eastern districts the mean was about 26°, which is 6° higher than normal.

# QL'EBEC

Along the River St. Lawrence, as far east as Quebec city, temperatures below zero were recorded on from 5 to 10 days, but in northern districts on about 18 days. Mean temperatures on the Middle St. Lawrence were about 21° or about 4 higher than normal; on the Lower St. Lawrence about 18 or 1 higher than normal; in the northern districts about 12, or 3 higher than normal.

# THE MARITIME PROVINCES.

The mean temperature of New Brunswick was 23 or 4 higher than normal; of Nova Scotia 30 or 2 higher than normal; of Prince Edward Island 277.

# PRECIPITATION.

# BRITISH COLUMBIA.

On South Vancouver Island the precipitation amounted to 10 inches, or 2 inches more than normal, and on North Vancouver Island to 18 inches. Along the Lower Fraser River, the North Columbia River, and on the Queen Charlotte Islands, the amount was about 7.50 inches, or about the normal. In the Okanagan Valley and the Kootenays the amount ranged from 50 of an inch to over 2 inches.

# THE WESTERN PROVINCES.

Along the Bow and Belly and Athabasca Rivers the total precipitation was about .40 of an inch, but along the North Saskatehewan and Red Deer Rivers ranged from merely a trace to .20 of an inch. The country about the Qu'Appelle River, however, reported about I inch, as did also the greater portion of Manitoba

# ONTARIO

The heaviest precipitation occurred in the Georgian Bay counties, totalling about 4 inches, or 1 inch in excess of normal. Throughout the remainder of the Province, the amounts were generally in excess of 2.50 inches, but slightly less than normal.

# QUEBEC.

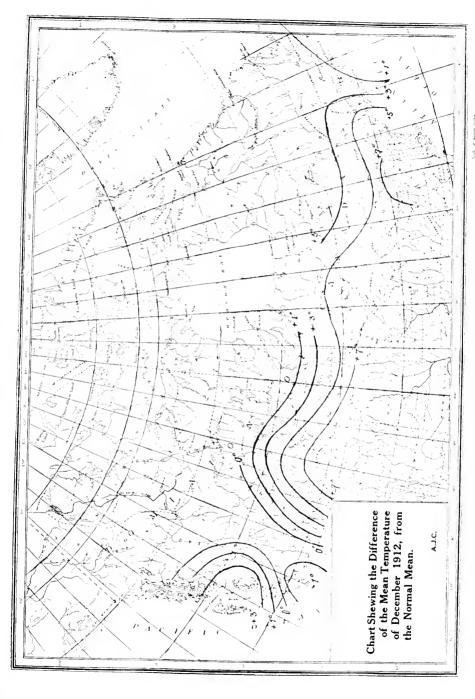
Along the Middle St. Lawrence and in the Lake St. John District the amount was about 3 inches, or slightly more than normal. In other districts the total was about 2 inches, or slightly less than normal.

# THE MARITIME PROVINCES.

The total precipitation over the Province of New Brunswick was equivalent to a depth of nearly 5 inches or less than normal by about 1.25 inches; while in Nova Scotia the depth was nearly 6 inches or about 1.50 inches less than normal.

# ATMOSPHERIC PRESSURE.

It is apparent, from the results obtained at the Telegraph Reporting Stations, that the mean atmospheric pressure for December was subnormal in all parts of Canada except in Vancouver Island, where the mean value was somewhat in excess of the normal. Over Northern Districts, the deficiency was about 0.15 of an inch, with a somewhat greater departure in a few localities.



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# HIGH AREAS.

Nine areas of high pressure were charted. Two first appeared in the far northwestern portion of the continent; two near Hudson's Bay and five on the United States Pacific Coast. The four areas from the northern portion of the continent were of little intensity, while those from the Pacific were usually more marked. The general course of the areas was to the Gulf States, thence off the Atlantic coast. Very little cobl attended the northern areas, while those from the Pacific preserved their usual mild characteristics, the general result being a month of abnormally mild weather in all portions of the Dominson.

# LOW AREAS.

Seventeen areas of low pressure were charted. Twelve first appeared in the far northwestern portion of the continent, one in the North Pacific States, one in the Western States, one in the vicinity of New Mexico, one in the Gulf of Mexico and one off the South Atlantic States. The two last mentioned areas passed up the Atlantic coast towards the Maritime Provinces and Newfoundland. All the others travelled either over or to the northward of the Great Lakes, ten out of the thirteen passing down the St Lawrence Valley, the remaining three apparently breaking up in transit. Many of the areas were of much importance, several as they reached the Maritime Provinces recording exceptionally low barometric readings. As a consequence stormy conditions frequently obtained in all districts, the total wind mileage for the month in the Maritime Provinces being especially marked.

218

# WINDS, DECEMBER, 1912

		Greatest	Greates	t Mileage in	1 Hour	Nur	nher of Da	lo ev	
PROVINCES AND STATIONS.	Total Mileage.	Mileage in 24 hours	Miles	Direction	Date		Strong Wind:	Fresh	GENERAL DIRECTION.
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ASKATCHEWAN									
Prince Albert Qu'Appelle	3490 8944	323 538	20 35	N.M.	9 7	2	11	3 12	SII
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Charlottetown	7242	497	38	8W	20	4	5	10	NW

\*Stations not furmshed with Registering Thermometers

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BRITISH COLUMBIA -																				
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TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMENION OF CANADA DECEMBER.

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TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, DEGEMBER, 12.

\*Stations not furnished with Registering Thermometers

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STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Меап.	Difference from average.	Yr's observations.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Amcunt.	Difference from average.	Heaviest fall in month.	Days with .01 or me	No. of fair days.	No. of Autoras.	No. of thunderstorms	No of fogs.
SASKATCHEWAN-																	_		
Qu'Appelle River	,	. ,										į.							
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Yorkton. S. Saskatchewan River	51 11	102 29		8 1	_	3	36 0	27	-29 0	6	27 2	_	-						
Chaplin East End (Divide) Larchmount (Glenbryan) Nashlyn (Kelvinhurst) Olivor Rathmullen Swift Current	50 26 49 31 49 21 51 46 49 54 51 20 50 20	106 39 108 49 109 29 108 10 107 27 108 57 107 45	2202 2439	15 8 22 0 19 7 20 6 16 0 22 4	+ 5 6	25 3 2 1 3 26	43 0 45 4 49 2 61 0 46 0	13 8 9 12	-18 0 - 6 8 -14 6 -12 0 -16 8 -10 0	11-12 3 11 11	28 7 18 0 26 0 28 6 26 3 15 1	0 04 0 25 0 10 0 45 0 05 0 38	-0 47 - - - 0 34	0.02 0.10 0.05 0.20 0.03 0.10	3 2 3 2 9	27 28 29 28 29 29 29			
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Cumberland House Lost River	53 56 53 17	102 16 104 21	::::::	5.5		2	36 0	22	-22.0	2	17 8			-			- 1		
Mentroba— Qu' Appelle and Assini- boine Rivers Aweme (St. Albans) Boissevaia Borsachan Brandon Carberry Carman Cypress River Hillynew Minette Nings Pierson Pipestone Portage la Prairie	49 42 59 51 49 51 49 52 49 33 40 55 50 15 49 14 49 14 49 34 49 57 49 57 49 57 50 59 49 51	90 35 101 1 99 57 99 20 98 0 99 3 100 33 99 50 99 3 101 5 100 5 100 5 99 38 99 51 101 20 98 17 101 20	1180 1703 1176 1258 872 1232 1400 1699 1363 1649 1531 1400	12 5 9 7 10 1 15 6 12 9 11 9 13 9 13 9	$+\frac{5}{5}\frac{6}{4}$	28   26   27   27   27   2   2   2   2   2   1   1   7   1   1   1   1   1   1   1	37 0 35 5 49 0 38 0 39 0 36 0 33 2 38 0	27 27 27 9 28 19 24 26 9	-25 9 -27 4 -28 0 -28 1 -24 0 -22 0 -26 0 -25 0 -21 0	8 8 8-9	20 6 17 9  15 9 17 3 22 4 20 4 17 8 18 1 18 1 21 8	1 09 1 00 1 10 0 84 - 1 05 0 71 1 04	+0 14 +0 41 +0 52 +0 52 - - +0 77	0 23 0 40 0 50 0 29 0 50 0 26 0 38	11   4     4     5     4       3   10	27 28 21			2
Almasippi Morden Oak Bank Stony Mountain Winnipeg.	49 14 49 11 49 57 50 40 49 53	99 20 98 6 96 42 97 14 97 7	978 500 803 760	13 9 14 8 11 5 11 0 12 5	+ 5 6 + 3 8 + 5 1	10 9 17 30 38	41 0 40 0 37 7 38 0 39 1	27 28 27 28 27	-24 0 $-17 0$ $-19 5$ $-27 0$ $-15 5$	8	16 8 16 1 13 2 21 9 14 8	1 15 0 75 1 20 0 63 0 78	+0 68 +0 06	0 40 0 40 0 40 0 40 0 31	5	25 28 26 28 17			1

\*Stations not furnished with Registering Thermometers

-							- 1	LEMPER	ATURE.				l'ne	. INTAT	10 5					_
STATION	/ almost 1	· samma	Longitude W.	Elevation above sen level, in foet,	Менл	Difference from average	Vr's observations	Highert	Date	Lowest.	Date	Mean dady range	Amount	Difference from average.	Beariest fall in month	Days with 01 or no	No of fair days	No of aurotas	No. of thinderstorms	No of fogs,
Manitora Continued							_									_		-		
Dauphin Lake and River Dauphin . Moose Horn Bay) Aitkens- ville) Berens River	51 51 :2	8 15 18	1(a) 2 1(a) 33 57 20	957 716	14 3 10 6 2 8	-	7 3 5	41 H 44 h 36 H	28 28 28	10 · 10 · 7 · -2r · 0	1-11 6 8	- 4 14 7	1 27		1 o 25 0 35 0 30	4 15 7	27 16 24	2		
Lake Winnipegosis Le Pas Swan River	52 53	49	101 15 101 15	1112	4 3	-	j	38.0	-7	26.0	2	16-7	0.60	_	0.20	4	27			
()NTARIO-																				
The Lake Superior Districts																				
Rainy River Kenota	4.4	4.	24-32	1102	11114	_	11	30 n	1	-21 0	11	110	0.10		0.11	1				
Thunder Bay Kakabeka Falls Port Arthur Schreiber	48 18 48	25 27 50	89 26 89 12 87 15	912 644 933	11 8 15 4 14 5	+ 1 0	5 31 9	39 0 42 0 50 1	1 1 5	-15 : -14 :: -24 :	ù	22 % 18 % 25 %	1 02	→ 0° 10°	0.19 0.19 1.21	10 15	21 16 22			ī
Algoma Bruce Mines	46	18	53 55	595	24.5	÷ 7 3	14	46-18	1,	-10.0	12	11.7	1 85 2 16		1 11	.,	22			
Copper Chff Fort Frances	46 45 15	30 27 40	80 59 93 30		20 5	_	7	49 0	- 11	-1:0	12				0.76	11	-11			
Porcupine Providence Bay White River	45	35	\$2 14 \$5 16	1252	9 8 26 1 12 7	- + 4 6	43	46 0 53 0 39 0	16 12	-25 H -3 O -34 F	10 13 12	21 6 17 4 24	1,31 2,82		0 47 0 47 1 0 10	15 4 15	16 27 10			
Nipissing Cochrane Halleybury Montreal River	49 47 47	29	81 0 79 39 79 20	546 687	17.7	. 5 0	17	49-7 50-0	5. h	-15 %	12	18 i 21 2	1 75 1 05	- <u>:</u> 5	1 0 29 0 30	17	1 1 24			ï
Upper Ottawa River Rutherglen (Lake Talon) Stonechiff (Rockliffe)	4.6 4.5		74 48 78 6	557	20-2 18-2	6 6 - 1 1	18	53 O 40 O	5	- 9 5 -10 0	13	17 + 15 4	2.81	-0 40 -1 2	1 0 50	ų H	17			
Upper St. Lawrence and Lower Ottawa Rivers																				
Almonte Bloomfield .	45 43		76 13 77 21	350 260	24 1 21 2	ii	1 13	52 2 54 0	h T	- 4 >	11	111	1.78		0.51	- 1	24 26			
Hillier Kingston	44	13	76 29	285	30 6	1.6.3	. 38	54 2	h	4 "	1.	11.	2 4 1 1 14	0.4		15				1
Montague North Gower	41 45 15	56 5 20	76 29 75 57 75 43 75 42	294	21.9		3.9	55.0	fi	- 4 11	21	17 .	1 14		0.42	_				
Ottawa Renfrew	45	26	76 39	416	22 h 22 l	5.7		\$1.0 \$5.0	3	1 0		11.5	1.25	- 11	0.60	11	17			
Georgian Bay Counties Barrie .	41		79.41	×39																
Bentrice Coldwater Collingwood	45 44 44		79-20 79-40 802	800 600	23 4	- 6.5	37 25	49 H	6	-11 0	- 21	17 1	1 1		166	15	24			
Gravenhurst Huntsville	44 15	54 19	79 20 79 8		$\frac{25}{26} \frac{1}{0}$	: 4 -	42	51 n 50 0	1) ()	- 0 0 H 0		17 9	4 -1		7 0 50	17				
*Midland Markdale	44	44	79 53 79 24	750	26.3 26.9		5	41 0 55 0 51 0	21	10.10	- 12 0		2.5	-	0.55 0.53 9. 1.03	16 12	26 15 19			
Orillia. Owen Sound Parry Sound.	14	34	80.55	597 635	27 %	- 4:		52 0	2-6	- 2 0 - 5 0		, 17 6 15 9	7 0			21				
Honville Shelburne	4.5 4.4	15 5	78 57 80 47	1038	25 7 24 8	_	.5	45.0		6 11	9 21		1.25			- 6				
Uplands	15	- 45	79 25		21.0	- 4.	27	44 ()	(1	18.0			3.79	i =0 1	1 0.60	11	17			
Birnam Clinton	43	32	81 55 81 37	600	30 5 30 1	+ 3 3	29 10	53 5 53 0 53 0 54 8	5	7 B 10 G	- 2		2.5	1.2	5 II 65 il 50	11 12	19			
Goderich Lucknow *North Bruce.	43 43 43	32 45 56 23	81 41 51 30 81 25	90%	29 1 25 2 30 5	+ 5 + 2 + 2 + 2 + 5	29 10 22 27 21	55 0	6 6	12 0 7 0 13 0	1:	10 4	4 10	5 10.2	0.50 0.58 0.067 0.074	12 20 19	19			
Point Clark	44	511	81 44 82 24	595 586	30 5	. 5.	39	53-0	1	111	-		1.6		11.95	2	1			
Southampton	4.1	30	81 21	656	30 3	. 2	1 .46	55.8	.5	9.7	14			0.3	d *1 96	21	10			
Lakes St. Clair & Erie, Niagara Peninsula Chatham	42	27	52 12	595	31 3	- 31	1 16	56.0		pa si			1.0	0 1	2 0.5					
Cottam Grimsby	42 43 43	1.0	82 45 71 36	306	30 I 34 I	- 41	1 25	54 0 58 0	2	11.7		1.1	1 1 4 7 2 7	4 -21	2 0 5 0 2 00 0 65	12				
Peleo Island Port Burwell	41 42 42	0.7	\$2 12 82 45 71 36 \$2 37 80 55 80 18	585 592	135 n		1)	51.0	ā			9.1	1.7		0.55	1.1	1 19			
Port Stanley St. Catharines	42	10	70 17	635 592 347	31 ± 31 6	→ 3 .	3 38	52 5 52 0	13	4.1		,		; — · ·	29 11 63	1.7	14			
Stoney Creek . Wallaceburg .	4.5	13	79 45 82 24	292	33 3		5 -25	57 0 56 0	6			124	0.4	7	0 0 57 0 27	- 7	7 24 1 25 1 15			
Welland Windham Centre	42			577	34 6		: 26	58.0	9-18		4	11.1	1.2		53 - 6 - 50 68 - 0 - 55	1				
Windsor	47	213	83 4	625	31.7	+ 4	6 39	55 0	1,	11.0			j ře		11 11 110	11	1 21			

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, DECEMBER, 12.

\* Stations not furnished with Registering Thermometers

									ТЕМІ	ERATU	The Control			Pa	3 IPITAT	ION	ore.			ø.	
STATION		Latitude N.	Longitude W.		Elevation above sea level in feet.	Mean.	Difference from average.	Yr's Observations	Highest.	Date.	Lowest.	Date	Mean daily range.	Amount	Difference from	Heavest fall in month.	Days with 01 or more.	No of fair days.	No. of auroras	No. of thunderstorms.	I No of fore
ONTARIO—Continued—					1								1								
West-Central Counties  Alton  Hrantlord  Elora  Guelph  Listowel  London  Paris  Strntford  Woodstock	13 43 43 43 43 43 43 43	51 10 41 33 59 12 23 8	80 80 81 80 81	5 21 24 16 13 25 0 47	1250 750 1274 1050 840 1191 980	31 5 27 9 29 6 29 5 30 0 30 3	$\begin{array}{c} + \ 5 \ 8 \\ + \ 3 \ 5 \\ + \ 5 \ 8 \\ + \ 4 \ 1 \\ + \ 4 \ 1 \\ + \ 4 \ .0 \end{array}$	31 15 26 12 28 23 38	56 0 53 0 54 0 52 0 56 5 57 0 55 3	5 5 5 5 6 5	10 0 5 0 8 0 5 0 6 0 12 0	22 9 9 8 9 9-23	15 2 12 2 11 3 14 0 14 1 13 6	0 65 2 07 1 75 2 50 4 77 2 20 1 95	-0.84 $1 - 0.55$ $-0.55$ $+1.26$ $-0.21$	0 40 0 50 0 98 1 10 0 50	12 19 7 16 9	29 19 22 24 15 22 18			
Agincourt. Agincourt. Aurora Hamilton ()shawa Toronto Unbridge Utbridge Wexford	43 43 43 43 43 43 44 43	47 57 16 53 40 40 5	79	16 24 54 52 24 24 8 17	590 886 303 331 350 886 555	30 0 33 1 32 4 32 6 33 9 27 6 28 8	+ 6 7	18 5 11 72 6 8	52 0 52 0 55 0 56 4 55 0 53 0 53 0	2 6 7 6 6 6 6	9 6 7 0 9 0 11 2 12 0 5 0 8 0	99899	12 1 13 7 15 2 12 3 13 0 10 4 11 6	1 85 1 8- 3 25 1 83 - - - 2 27 1 90	-0 26 -0 76	1.24	13 9  6 17 14 5	18 22 25 14 — 17 26			
Baseroft .  Baseroft . Halburton Kummont . Lakeheld . Landsay . Madoe . Norwood . Peterboro' . Ursa .	45 44 44 44 44 44 44	1 1 45 25 20 30 17 54	78 78	50 28 38 15 45 29 19 18	1050 920 850 872 575	24 7 23 0 22 8 28 8 27 0 26 5 28 2 28 0	+ 6 8 + 4 2 + 3 9 + 7 4 + 5 4 + 7 3	23 25 13 29 33 9 44 5	51 0 46 0 51 0 54 0 53 2 56 0 56 0 48 0	6 2 6 7 6 6 2-6	$\begin{array}{c} -7.0 \\ -10.5 \\ -10.0 \\ 2.0 \\ 2.1 \\ 1.0 \\ 3.0 \\ 2.0 \\ \end{array}$	20 9* 20 9 12 9 9 9	16 3 18 0 19 6 15 5 15 1 14 6	2 00 2 00 2 00 2 43 2 23 3 20	-0.42	0 50 0 50 0 50 0 16 0 81 0 85 0 57	14 8 12 11 10 9	17 23 19 20 21 21 22		i	
QUEBEC-					,																
Middle St. Lawrence  Brome Cap Rouge D'Israeli Montreal. Quebec Ste. Anne de Bellevue Shawiaugan Falls Sherbrooke	45 46 45 45 46 45 46 46 45	10 46 55 30 48 27 34 32	71 71 73 71 73	36 18 21 35 13 59 43	678 896 187 296	23 7 16 6 18 8 23 9 18 6 24 5 13 5 24 1	+ 5 2 - + 4 8 + 3 1	32 2 2 43 38 6 9	, 55 0 47 0 48 0 , 54 0 148 8 56 2 35 0 56 2	6 7 15 6 6 6 6 6	- 5 0 -13 2 -10 5 - 2 8 -11 6 - 2 0 -20 0 - 4 5	1-9 13-14 13-17 9 13 9 22 13	15 1 17 7 21 3 13 1 15 3 13 3 18 7 16 8	2 70 3 00 4 23 3 03 2 23 2 70 3 43	-0 58 -0 14	0 80 0 72 2 00 0 56 0 53 0 70 0 40 0 81	10 16 10 16 17 11 12 22	21 15 21 15 14 20 19			
Lower St. Lawrence & Gulf																	1		1		
*Anticosti E. Pt Anticosti, S.W. Pt Anticosti, W. Pt *Anticosti, W. Pt *Bicquet *Cape Chatte *Cape Magdalen Futher Point	49 48 49 49 49 48	52 25 6 16 31	64 68 66 65	42 32 53 45 20 19	30 30 30 93 20	18 4 18 1 19 9 17 2	- 0 6 + 1 6 + 1 5	31 31 29 35	40 0 43.0 45 0 44 2	6 6 6	$\begin{array}{c} -4.0 \\ -6.0 \\ -11.0 \\ -10.0 \end{array}$	13-24 12 14 14	 	1 86 2 11 1 30 1 95	_	0 30 0 40 0 30 0 42	9 10 12 14	22 21 19 17			
Cheoutimi Chicoutimi (2). Lake Edward La Tuque Mistassini *Roberval	48 47 47 48 48	25 39 27 54 31	72 72	5 15 48 15 13	1333 520 360 352	13 6 12 3 13 9 9 2	=======================================	34 2 3 2 1	48 0 41 6 47 0 43 5	- 6 5 7	-23 0 -30 5 -22 0 -20 0	24 21 23 22-24	13 8 22 6 21 5 20 3	3 45 4 13 3 30 1 40 2 45		1 00 1 80 0 60 0 80 0 60	18 5 8 4 13	13 26 23 27 18	3		
The Northwestern Districts  Abitibi Manouan Crossing Weymontachingue (Dam A) White Shore Lake	48 47 48	33 54 12	73	22 50 43		9 7 12 0 13 1 7 5	+ 2 6	17 2 1	39 0 41 0 40 0 45 0	2 7 6	$-{27\atop -27\atop 0}{0\atop -30\atop 0}{0\atop -28\atop 0}$	16 13 21 17	20 4 25 1 26 2 20 3	1 64 3 97 2 50 0 60	-0 92	0 20 0 58 0 80 0 30	13 24 12 3	18 7 19 28			
The North Shore											_										
Clarke City	50	10	66	25		*****															
Chatham Dalhouse Fredericton Moncton *Point Leprenux St. John St. Stephen Sussex Williamsburg	47 48 45 46 45 45 45	3 4 57 9 4 17 11 38	66 64 66 66 67 65	29 22 36 45 28 4 16 38	21 39 164 50 30 70 35 96	20 1 16 7 22 3 23 2 32 0 28 5 24 5 26 2 18 2	+ 1 6 + 2.1 + 6 3 + 3 6 + 6 2 + 4 3 + 3 1 + 7 3	37 40 15 34 40 15 15	45 5 38 0 48 0 62 0 50 0 52.5 50.1 54 0 41 0	19 11 2-3 3 19 19 2 19-20	$\begin{array}{c} 13 & 0 \\ -11 & 0 \\ -7 & 0 \\ -5 & 0 \\ -7 & 0 \\ 3 & 7 \\ -15 & 0 \\ -15 & 0 \end{array}$	14 13 13 12-13 13 13 13 24 10-13	17 8 14 7 18 5 19 6 	3 16 2 55 4 74 4 32 5 77 7 39 4 75 3 41 6 03	$ \begin{array}{r} -0 & 20 \\ +1 & 23 \\ +1 & 71 \\ +3 & 12 \\ +3 & 35 \\ -1 & +1 & 36 \\ -0 & 42 \end{array} $	0 68 0 80 1 12 1 95 1 77 2 49 1 40 1 55 1 55	15 5 12 6 8 14 4 7	16 26 19 25 23 17 27 24 19			

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF LANADA. DECEMBER OF

\*stations not furnished with Registering Thermometris.

	_																	
			tos				Тіме	LIVIT	1.1			1111	iPII Vi	ne.	è			
STATION	Latrade	Longitude	Elevation above so level, in feet	Mean	Difference fir tu average.	Ye's Observations	Illighest	Pate	Lowest	in an analysis of the second s	Mean daily sales	Views, 20	Difference feats average	Heavest full in	Days with Worns	. No office door	No of fee	
Nova Scotia-	0 /	. ,																
Advocate		61 59 63 36	50 \$8 40	25 2 30 5 26 2 28 6 30 1	+ 1 2	3 35 1 1	60 0 55 0 53 0 59 0 58 0	20 10 10 10	1 0 5 4 2 0 0 0 0 0	21 21 10	20 S 16 S 15 Z 20 Z 18 S	× 12 4 × 1 1 × 20 6 × 11	+272	1 63 1 39 0 66 1 46	13			
Parrsboro' Port Hastings .	15 39		40 45		_		45.0	à			12.6		-0.21					
Sable Island, E. Pt Sable Island (Main Station) Sydney. Truro Whitehead. Windsor Wolfville. Yarmouth.	46 10 45 22	61 8 64 6 64 20	25 35 77 20 90 65	28 8 33 1 29 6 31 4	+ 1 6 + 3 9 + 2 3   + 3 1	38 29 10 12	55 0 57 5 58 6 50 0 52 0 60 2 56 0	19 19 19 4 7 19	$\begin{array}{c} 20.0 \\ -6.5 \\ -6.5 \\ 16.0 \\ -7.5 \\ -8.1 \\ 12.9 \end{array}$	14 24 13 19 24	12 0 15 2 20 0 14 6 18 7 14 0	6 26 6 75 6 77 8 68	+1 21 +0 57 +2 05 +2 58 +2 58 +2 71 +1 10	1 71 1 79 1 95 1 40 1 40	16 17 10	21 21 19		1,
P. E. ISLAND-																		
Charlottetown Charlottetown (Exp. Farm) Hamilton	16 14 46 14 46 25	$\begin{array}{ccc} 63 & 10 \\ 63 & 7 \\ 63 & 48 \end{array}$	38 75	27 1 26 6 28 0	$\frac{+20}{-50}$	3	50 0 50 0 52 0	20	$\begin{array}{c} - \begin{array}{c} 0 & 0 \\ - & 2 & 0 \\ - & 5 & 0 \end{array}$	1.3	13.9 15.5 12.1	6 45 5 40	+ 3 100	1 58 1 46 0 81	14	17 19 24		
Newfoundland— *Amour Point Burin *Cape Norman Fogo	51 28 47 0 51 38 49 43	55 10 55 52	27 30	31 5 13 2			48 0 34 0	3 19 28-00	11 ti	15 13	17.0	7 94 1 95		1 08 1 20	, 23	22		_
*Point Riche Port aux Basques St. George's St. John s	50 42 17 35	57 25	25 27 125	21 2 27 9 28 0 29 9			49 9 43 5 47 2 50 0	5 6–19 19 11	- 2 0 6 5 3 4 8 0	1.5	12.7 15.1 15.0	9 61 4 71 6 00	+1.02	0 07 1 36 1 40 1 46	28 26 13	5		
LABRADOR— North West River BERMUDA— Prospect	32 17	64 46	151_	65 G	+ 0.7	21	75 8		5h U	11 -10	10 8		-2.70	0.42	11	20		

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING DECEMBER, 12.

STATIONS.	Amount	No of	No. of	Heaviest		Amount		Heaviest	- 11	REMARKS
	in inches.	Days 0I or over.	Fair Days.	Fall in Month.	Date	inches.	70 01	Fall in Month	Date	.,,,,,,,,,,,,
tiisii Colembia—										
Alkalı Lake Annıs (Canoe Point) .	0.01	i	16	0.01	4	1 3 14 8	11	0 5 2 6 3 0	25-30	
rinstrong kamina	0.73	. 3	19	0.39	.;	14 5	9	3 0	11	
leaver Lake larriere Valley (Louis Cr.)	5 27	19	12	0.80	28	0.5	1	0.5	27	
Coaurtlam ·	11 32	8	2.3	1 77	25				100	
ariboo Road No 141 Jenman's Island	9 06	23	· s	1.54	31					
erguson Joldstream Lake	10 22	19	. 7	1.76	31	113 0 18 5	15 5	20 0 8 0	3 28	
Lydraulie Ioraby Island	7 19	15	16	1.87	26	23 3	12	4.8	3	
nvermere .	13 68	24	5			13 6	li 10	10 7	14	
ordan River ordan River (Bear Creek)	14 65	20	8	2 02 2 40	30	41 3 41 3	12 12	16 0 16 0	25 28	
attle Qualicum amby Ionte Creek	5.80	11	20	2 10	51	17.5	11	3 0	4-12	
Ionte Creek Saas Harbour	6.45	6	12	1.87	19	5 15 5 30	.5 13	2 0 10 0	20	
tock Creek Shawn:gan Lake	7 36	23			31	9 N 5 0	4	2 0 2 0 5 0	1-15 25	
Vyeliffe	1.17	5	22	1 32 0 35	22-2	11.5	4	5.0	3	
serta— ardo										
ismark ruederheim							2	+	17-23	
ittern Lake rooks						0.5	2	0 3 0 S	14	
leaver Mines						6.1	3	5 J 4 0	29	
oleman. 'ampsie	0.03		0.4	44.000		15 0		2 0		
'owley '4ldwell	0 (6)	. 1	24	0.03	3	6 1 4 3 2 1	5 2	4.0	3	
Haresholm Dorenke (Bushaw)							.1	1.0	.31	
Dunstable (Five Lakes) Frassy Lake						1.9	0	1.1	3	
umping Pound						2.0	2	1.3	5	
orh Slov yndon						5.1	2	3.5	4	
ancham a Pearl	- •					4.0	1	4.0	12	
athbridge . Incleod						2 4 6 0	3	1.5 6.0	3	
laveroit						4 6 3 0	1	$\frac{3}{2} \frac{1}{0}$	12	
dountain View Nateby Nanton					i	1 3 11	-	- 17		
žkotok∢.						*	1	*	4	
'ekrsko 'onoka	Į					3.0	2	2.5	4	
ion even Persons						4.5	2	2.5	14	
illey						5.5				
Vriting-on-Stone (Coutts) Vaterton Vells	0.40	2	21	0.23		19.0	3.	2 5 5 0	5	
skatchewas— therfeldy										
lul! Lake lull Lake (Eks. Swift Car.)						13	2 4	1.5	14 14	
ast Mountain - Inple Creek .						2 n	5	1.0	15	
leadow Lake Villow Creek (Battle Cr. )								2.9		
NITOB I						2.5			11	
'artwright Deloraine						10.5 5.8	9	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	19 8	
Norquay (Swan Lake) Japid City						5 5 5 5	3 7	3.0	4-7	
tuse Bank						,				
rivitto ~ Brantford	1 69	9	11	0.58	29	9.0	11	3.3	15	
'harlton Deer Park	1 (r) 1 14	1	17	1 00	6 29	20 5 5 0	1.3 6	2 5 1 5	15	
Outton Imsulale	1 15 1 67	2	27	0.75	2 3	4 0 21 0	14	2.0	23-24 24	
ort Frances leorgetown	0.59	5	21	0.37		5.4 5.9	5	2 0	30	
Frantham	1 29	3	20	0.44	2 2	1.5	3	0.8	22 19	
Itand Valley IncCze	1 02	4	19 25	0.48	2-31	11.5	2	3.0	28-31	
tirecton vilentiam	2.68		26	1 60	g	1 0	1.	4.6	11	
Strathroy Viitford	0.79 1.86	2	25 27 22 27 25	0.63	31 31	12.5	Ğ	3.0	27	
Vestport Vestrouster	0 89 1 21	2 2	22	0.84	2 2	5 0 9 0	7,	1 0	8 13	
Cnolet .	1.53	4	25	0 75 0 49	30	3.0	2	5 0 2 0	21 13	
Indley Authorwyl	1 17 1 80	5 2	12 18	0.31	3 2	17 5 19 5	11	3 0 6 0	12	
Viacton Frec—	1.70	2	24	1.40	2	18 0	6	6.0	11	
Bark Lake (Riviere Deseit) Kipawa Dain	0.70	2	19	0.50	6	22 9	10	5 1	19	
AICHERO						1				
Perkins Mills Dunze Dam	1 03	2	19	0.95	2	26.5	10	6.0	30	
Eimiskanning . Pw Brunswick -	2 50	1	20	1/20	6	0.3	7	2 0	7-22	
Point Escuminac eva Scotta—	1.38	6	22	1 05	20	9.5	3	4.2	27	
Big Mushamush Lake (Ma-				1						
hone) ventville	8 05	<sub>6</sub>	23	2.00	27	17.3	2	15 0	24	
Islton Jushamush River (Mahone)										
Sappan	5 42	. 6 9	24 15	1 32 1 92	27 27	2 0 22,0	1 2	2 0 5 0	9 25	
South Alton	6.57									

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE PERST CLASS DURING THE MONTH OF DECEMBER, 1912.

a Barometer not reduced to sea level

	-			F		Pr	esst	- RE.		nichty.	rloud.	mpletely			Dii	RECTIO	IN OF	11 11	sti fh	- 100			Vis	ELOCITY OF WIND
STATION		Latitude N	Longitude W	Llevetion above sea level, in feet.	Mean reduced.		Highest.	Lowest.	Range.	Mean relative burnichty.	n arrequit e	No of days comp	Z	N I	1.		<i>t</i> .	= 7.	"	N. W.	٥	Total number of   observations	Mear miles per hour	Maximena velocity Date and direc- tion from
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New Brunswick— Chatham Fredericton St. John	47 15 45	3 65 57 66 17 66	361	21 164 70	29 89 29 91 29 9	130 130 130	59 2 59 2 57 2	5 SI 5 73 5 56	1 78 1 83 1 01	77 85 74	5 5	6 5 8	2 2 11	4 5 9	6 0 2	1)	0 0	15 15	2 P 22 7	14 33 29	7	93 . 93 93	6 2 9 9 16 3	32 20W 37 27NW 50 308W
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# FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF DECEMBER, 1912

			DIR	ECTIO	0 Z	F_W1	ND I	:KOM		
STATION	ź	N.E.	ы́	х. Э.	ś	S.W.	.!!	N. W.	ပ်	Total mun- ber of Obser-
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Didsbury Endiang	0 5	5	8	2 16	3	(i	()	14	()	31 36
Halkirk (Emsburg)	O	1	0	8	9	24	5	15	Ü	62
Endiang Halkirk (Emsburg) Hillsdown Loveland Widelend	1	3	0	5	6 7	18	17	20 13	9	62 62
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Pakan (Victoria)										
ASKATCHEWAN—										
Chaplin	2	1	0	7	6	7	5 4	15 8	()	31 31
Crescent Lane Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Laschweist (Clenbergin)	2	1	2	3	8	7	2	5	î	31
Fort Qu'Appelle	2	6	9	7	5 3	5 24	1.3	12	3	62
Grenfell (Brownfill)	9	1	1	2 2	3 9	24 24	4 10	19 30	7	62 93
15th Chimount (Orenny yan)	()	i	0	O	()	25	27	9	Ö	62
Moosomm	-0	10	1	6i 1	1 2	‡ 7	7	11	0	31 56
Onion Lake ' Pense (Gatesgarth)	5	2	3	0	ñ	ó	9	12	0	31
Pense (Gatesgarth)	0	1	1	7	()	(5	6	10	()	31
Waseca ANITOBA —	2	3	3	5	0	4	9	5	()	31
Berens River	13	3	4	3	26	0	1	. 11	1	62
Brandon	.5 .5	13	10	5 5	0	4 25	20 11	30	16 0	93 93
Moose Horn Bay (Arthersville)	13	3	6	7	9	20	4	34	2	93 54
Moose Horn Bay (Aitkensville)	s	4	3	2	4	. 10	16	12	3	62
Oak Dank	2	1	1	'2'	5	ti	2	12	()	34
Stony Mountain										
Agincourt Alton Beatrice Burnam Clinton Cottam Generalburst	1	3	1.5	0	4	18	43	. 9	()	93
Alton	6	0	0	11	26	12	3	12	23	93
Birnam	0	2	1	3	20	1.4	14	8	0	62
Clinton	0 5	0	5 0	2 3	22 5	10	16	7	0	62
Cottam Gravenhurst Lindsay.				.,		1 _	*		0	31
Lindsay										. '
NORTH DIRECT	7	5.0	5 2	7	19	18 7	18 .5	14	0	93
Orillia Owen Sound										
Point Clark	65	1	3	4	16	16	12	4	0	62
Stoney Creek	1	3	4	1.	5 1	7 33	10	5 8	0	31 93
Uplands	ā	(1	1	0	19	1	5	0	0	31
Wexford	1	()	ı	()	2	13	4	ő	4	30
UEBEC								1		
Abitibi	19	()	5)	11	26	9	16	3	0	93
Anticosti, W. Pt.								l		
Anticosti, Heath Point	11	8 5	0	3	32	10 15	- 8 47	19	2	93 93
Case Chatte	4	4	5		18	10	37	6	25	93
Cape Magdalen	0	0	6	2	25	5	1	47	12	93
Cap Rouge.	20	4 34	0	() 15	0	(1	0	7 38	13	31 93
Charke City.	- ".				. "					
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White Shore Lake										
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Pt. Leprcaux										
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WEAN PROPORTION OF PRIGHT SUNSHINE ELEGISTERED IN EACH HOLL OF ANY LAY IN THE MONTH OF DECEMBER 1912

Victoria  Sa'mon Arm  Nanaimo  Vancouver  Agossiz  Tranquil'e  Summerland  Kamloops  Edmonton  Lethbridge  Lacombe  Medicine Hat  Fort Dunvegan.  Fort Vermiton  Battleford  Indian Head													2 d	-	/	E d
Nanaimo Vancouver Agossiz Tranquille Summerland Kamloops Edmonton Lethbridge Lacombe Medicine Hat Fort Dunvegan. Fort Vermilion Battleford				I		16	1.	1.	:_							
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Edmonton  Lethbridge  Lacombe  Medicine Hat  Fort Dunvegan.  Fort Vermilion  Battleford				12	23	2.		21								
Lethbridge Lacombe Medicine Hat Fort Dunvegan. Fort Vermilion Battleford					11	27			25							
Lacombe Medicine Hat Fort Dunvegan. Fort Vermilion Battleford																
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Fort Dunvegan.  Fort Vermilion  Battleford				11		11	4.2	1.	41	21						
Fort Vermilion																
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Scott			T	17		4×	74	52								
Rosthern				- 1	1	. 4	41		_	21						
Brandon				17	26		4	<b>‡</b> 1		1.7						
Winnipeg.				115	11		20	25	10							
Haileybury .				114	()>		11	10	1.							
Woodstock				11	20	21	27	_'_	-1	_0	15					
Lindsay.				I	11	17	16	1.0	11	14						
Barrie					1:	12	1:	1.	1-		1					
Poronto				(1e)	31	29	2		2							
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Ottawa				174	21	29	ς.	,4		23	1					
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Cap Rouge				0.5	17		2.	14			114					
Quebec				12	2)			42		-	Þ					
Sherbrooke				64	1.	25		.5	4		114					
Fredericton				10	41	- '	7.0	7	12	- "		02				
Charlottetown																

	Victoria.	Salmon Arm.	Nanatarno.	Vancouver	Appeals	Tranquille.	Summerland	Kerreloop	Letmonton	Lethbroke	Locombo.	Medicine Hat.	Fort Dunvegan	Fort Vermitton	Battleford	Indon Head	Manse Jaw	Scott	Rosthern	Branden	Winniper	Hulerbury	Word took	Lindsin	Barrie	Turonto	Amgston	Outawa	Wentreel	Cap Box >	(Juchen	Sharbanda	Ledeneten	Charlottotown	siddi /
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# Auroras recorded:

31.

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6	Aweme III. Waseea, Waitefield IV.
$\overline{\iota}$ .	Mistassim 111.
5,	Waseca, Grenfell IV, Waitefield IV.
9.	Grenfell III
10	Waitefield IV.
11.	Waitefield IV.
12.	Mistassini IV.
13.	Aitkensville IV.
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15	Melfort IV, Sion IV,
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16. Goldstream Lake.

17. Clayoquot, Goldstream Lake.

18. Sooke, Prince Rupert, Victoria.

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# FORECASTS FOR DECEMBER 1912

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1278. These were divided as follows:—

				VERITI	ED.	
	District.	No.	No.	No.	No.	22
		Issued				Per-
		 	Fully.	Partly	Not.	centage
Alberta		79	6.3	9	7	85.4
Suskatchewan		80	59	14	7	82.5
Manitoba		×:	62	15	b	83.7
Lake Superior		112	76	28	` `	80.3
Lower Lake Bogion		115	94	15	7	89-6
Georgian Bay		116	57	21	6	84.9
Ottawa Valley		107	7.1	26	18	80.4
Upper St. Lawtence		107	79	21	-	83-6
Lower St. Lawrence .		110	75	21	11	80.5
Gulf		111	7.5	25	۸.	80-2
Maritimo Provinces West		124	×1	28	11	79.8
Meritime Provinces Past		121	89	21	11	80/2
Total		1278	120	252	106	81.5

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto,

Jan. 25th, 1912.



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1.2			
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# Department of Marine and Fisheries, Canada meteorological service

# MONTHLY WEATHER REVIEW

BY

R. F. STUPART, Director

1913

TORONTO

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# DEPARTMENT OF MARINE AND FISHERIES, CANADA. METEOROLOGICAL SERVICE.

# Monthly Meather Review

VOL. XXXVII.

JANUARY, 1913

No L

# INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forceasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

# TEMPERATURE.

From the Pacific coast to Algonia the mean temperature was lower than average, but castward again to the Atlantic Ocean was considerably higher than usual.

# BRITISH COLUMBIA.

Severely cold weather prevailed in the interior of the Province until the 22nd, but during the last week much milder conditions were recorded in all districts. In the East Kootenay temperatures below zero were recorded frequently during the first three weeks, the extreme minimum at several stations reaching 25 below or lower. In the country about the upper reaches of the Fraser River the extreme lowest ranged between 38 and 56 below zero. From the mouth of the Fraser to Harrison Lake zero temperatures were recorded on one or two days or not at all. On Vancouver Island the coldest day was the 19th, when 21° above zero was recorded at Victoria. During the last week occurred the highest temperature of the month, which exceeded 40 in the Kootenays and along the Upper Fraser, and 50 at points on the Lower Mainland and on Vancouver Island.

# THE WESTERN PROVINCES.

In Alberta the temperature was continuously below zero from the 10th to the 12th, and from the 14th to the 20th, in the southern portion; while in the Peace River district the daily maxima were below zero from the 4th to the 24th. In Saskatchewan the same conditions prevailed from the 4th to the 7th, and from the 10th to the 24th, in Manitoba from the 4th to the 7th, 11th to 14th, 18th to 22nd, 24th and 25th. From the 25th to 29th there was an interval of unider weather, during which the highest temperatures of the month, exceeding the freezing point, occurred.

# ONTARIO.

During the latter 15 days of the month the weather was exceptionally mild. As an instance of this we may take the temperatures at Stoney Creek in the Niagara district. Here the average maximum temperature for the last 15 days was 46; the average minimum 32; and the average temperain , therefore 30 or but 5 less than the mean temperature for April at the same station. In the countries meet, or lacke Ontario, on the 9th and 13th, the minimum temperature was below zero, while in the country and the Upper Ottawa River, and in the districts of Algoma, Nipissing, Thunder Bay and Rainy River zero temperatures were recorded on several days. The highest temperature recorded in the Provices was 54, registered at Grimsby and at Stoney Creek, in the Niagara Peninsula, if we except that of 60 recorded on Pelce Island in Lake Eric.

# QUEBEC:

The most remarkable feature of the weather in Quebec was the sudden changes of temperature throughout the mouth. At Brome, in the extreme west of the Province, the daily range varied from 1 on the 21st to 38 on the 6th. On 13 days the range was less than 10°, while on 8 days it was greater than 25°. At 8te, Anne de la Pocatiere, in Eastern Quebec, the greatest range in 24 hours was 63° on the 21st, when the temperature rose from 25° below zero to 38° above zero.

# THE MARITIME PROVINCES.

In many districts the average maximum temperature exceeded 35 and at some points exceeded 40%. The highest temperature recorded was  $60^\circ$  at Antigonish on the 13th. The mean temperature exceeded the normal mean by from  $7^\circ$  to  $9^\circ$ .

# PRECIPITATION.

In British Columbia, Alberta, the Peninsula of Ontario, and in Quebec the total amount recorded was greatly in excess of the normal. In Saskatchewan and Manitoba, and in Northern Ontario it was generally deficient, while in the Maritime Provinces the distribution was very irregular, some stations reporting considerable excess, others a deficiency as great.

# HIGH AREAS.

Eleven areas of high pressure were charted. Five first appeared in the northwestern portion of the continent, two in the northern portion, three on the Pacific States coasts, and one in the Middle Pacific States.

The general path of the areas was either well to the northward or else to the southward of the Great Lakes. In nearly all cases they were unusually feeble for mid-winter systems, while their accompanying cold waves were not of lengthy duration.

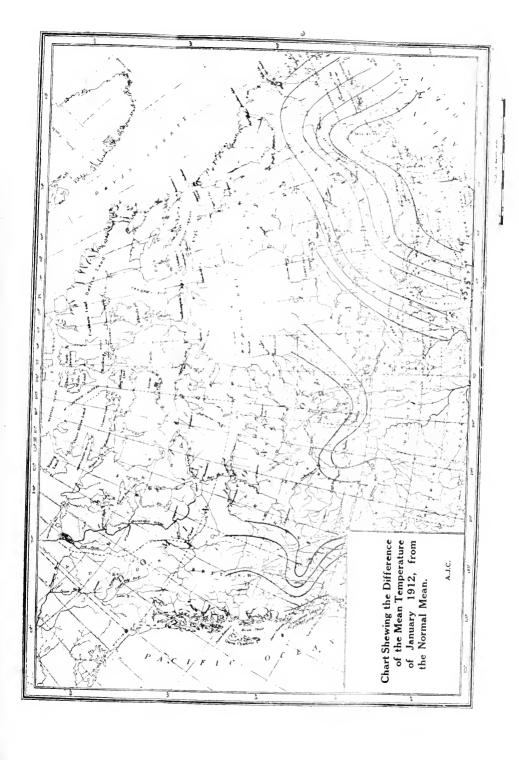
# LOW AREAS

Sixteen areas of low pressure were charted. Twelve first appeared on the Pacific coast line between the State of Washington and Alaska, one in the interior of British Columbia, and three in the vicinity of Texas. The general course of the areas was over the Great Lakes, thence to the St. Lawrence Valley, the Maritime Provinces and Newfoundland.

Many of the areas were both widespread and important, resulting in numerous strong winds and gales, but as their accompanying precipitation was largely as rain there was little or no inconvenience to travel by snow and drift.

# ATMOSPHERIC PRESSURE.

The results at the telegraphic reporting stations indicate that the atmospheric pressure over the Maritime Provinces and British Columbia during January was greater than usual, and elsewhere in Canada it was sub-normal. Departures from average in the Maritime Provinces were between  $\pm$  0.05 and  $\pm$  0.10 of an inch, and in British Columbia about  $\pm$  0.02 of an inch. From Lake Superior to the Rockies the deticiency in pressure was about  $\pm$  0.05 to  $\pm$  0.08 of an inch; from Lake Huron to Quebec the negative differences were somewhat less.



# WINDS, JANUARY, 1913

PROVINCES V.D SIVIJONS	Total	Orratest Millenge	Greates	Mile ge in	1 Hour	Nu	aber of Da	) S (d	GLNERAL		
	Mileage	in 21 hours	Mile -	Direction	D.he	Gales		Fresh Winds	Direction		
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Atlu	u5s7	553	alı	7.11	7	2	10	ī	VI VW		
Prince Ropert Victoria	6160	4.76	vi	11~	25	1	12	7	NL NW E NL 8W W N		
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Lalmonton Calerary	7900 3518	311 316	12	117	::1		ti.	7	//////////////////////////////////////		
MAR MUHLWAN											
Battleford											
Prince Athert Swift Current			19	.\.	ş				711		
Qu'Appelle	7870	420	.91	7.11	.50		13	11			
MANITORA,											
Le Pas Winnipeg	8024	581	sia.	SE	13	1	15		Z.M.		
981 yido											
Port Arthur	7508 4148	417	32	HZ	.1	1	- 11	16	, N. N. W. N. N. N. N. N. N. N. N. N. N. N. N. N.		
White River Cochrane	5195	355 365	43	HZ	23		41	10			
Party Sound Southmoston	6993 8250	385 754	23	/ II - II	17 20-21	2	2 18	25	> II <		
Pelee Island Woodstock	11122 8305	715 549	1.1 2.7	HZ - Hc	4 - 15 - 11	` `	15 14	5 13	SW		
Guelph Foronto	31171	65.8	40	NII	10		21	4	II.		
Kingston . Stoneclifie	8939 3016	521 200		//	23	2	16	12 5	>W.		
Ortgwn											
Oterec.											
Montreal			11				0	17	W,W		
Shethtool.e Quebec	7.462 9833	646 657	48 54	5W 5E	1	7	11 16	9.5	W.NE		
Lather Point Anticosti	13244 16509	906 1160	(u) (u)	7.11	4	15	11	1	8 811 711		
Harrington .	•			.,,,							
SI W. Dira Sawie is											
Pt. Escaminac											
Fredericton St. John	6546 12062	600	36 53	2W.	1	13	9 12	4	NW NW		
Pt Lepreaux	14005	1411	92	7118	4	15	G	.3	SW, NW		
Kovy Scotty											
Yarmouth	11156	953	50	NW	1				s		
Wolfville Halifay	10744 10626	922 500	41:	11	1	15 -	6 10	6 6	$\frac{NW}{8}$ SW W $NW$		
Sable Island Flat Point	15663 14290	1245 940	61 62	SW NE	9	19	9	3	SW NW		
PRINCE EDWARD ISLAND	-1	1			0.0				1		
Charlottetown	7104	561	31	%	23	4	9	12	S,NW		
29 Days											

# FREE AIR DATA

# REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8 N., Long. 80 47 W.) on January 3rd, 1913.

Instrument—Dines Meteorograph. Beginning of Ascent—1 a.m. G.M.T.

Barometer—725 mm. Temperature =4 0 C.

Direction of flight at Beginning -Northeast,

Fell—790 km. distant N.50°E. Maximum Height—11-2 km. Minimum Temperature —61.0 C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	entigrade degree
		-	
G.L. = .3	725	1.0	2.5
. 5	708	3.5	- 2.5
8	675	2.5	1.0
1 0	662	1.0	2.5
1 3	636	2	.5
1.5	621	- 3	. 5
2.0	583	- 5	0
2.1	578		
2.5	548	— b 5	- 8.0
3 0	511	9.5	11.0
3.5	479	-13 0	14.5
4.0	448	16	
4.5	419	19	
5.0	391	-23	
5.5	365	25.0	-26.5
6 0	340	27. 5	-29 0
6.5	316	31 0	-32 0
7.0	295	34 0	-35 0
7.5	274	38.5	40.0
8.0	254	43.0	-45.0
8.5	237	46 0	48 0
9.0	218	49.0	-51.0
9.5	203	52.0	54 5
10.0	188	55 0	56.0
$1 \cup .5$	174	55 0	-57.0
10.8	165	59.5	61
11.0	161	39.5	60.5
11.2	156	59	

A low pressure area extended from Northern Ontario southward to the Gulf of Mexico, pressure being lowest in Northern Ontario.

# \*Stations not furnished with Registering Thermometers.

							Темре	RATURE	E		11	Pre	IPITATIO	on,	more.			i	
STATION.	Latitude N.	Longitude W	Elevation above sea   level, in feet	Mean	Difference from average	Yr's Observations	Highest	Date.	Lowest	Date.	Mean daily range.	Amount	Difference from average,	Heaviest fall in month.		No. of fair days.	No. of auroras	No. of thunderstorme.	No. of fogs.
Вантын Сольмыл-																			
8. Vancouver Island	۰,	. ,																	
Alberni (Benver Creek) Clayoquot Cloose Cowichia (Tzouhaleni), Departure Bay Nanaimo Nanoose Bay Salt Spring Island Sooke Victotia	49 15 49 11 48 25 49 13 49 10 49 17 48 50 48 41 48 24	124 49 125 55 123 42 23 58 123 37 124 12 123 20 123 44 123 19	300 27 170 30 125 130 25 85	31 0 37 1 32,7 33 2 37 7 35 0 34 1 32 8 34 1 36 1	- 2 6 - 2 2 - 0.8 - 1 0	16 14 16 1 16 1 12 1 1 4 3 21	49, 0 57 0 50 0 45 6 46 6 48 0 49 0 46 0 50,0 50 0	31 7 24 31 25 26 25 25 25 25 25	2.0 20 0 16 0 9 5 18 7 11 1 24 0 18 0 21 0	19 18 18 19 19 19 5-22 18-19 19	11.4 9 2 11.7 9 7 8 2 19 3 8 5 7.8 9 7 8 6	6 96 13 97 9,66 5 48 4 82 5 58 2 18 5 70 8,81 4 54	-2,84 -0 62  -0.93  0,00	0 69 3 21   2,71 0 70 0 82   0 93 0,60 0 80   1 43 0,67	15 21 17 18 19 16 12 19 17 20	16 10 14 13 12 15 19 12 14 11	::		1 4 2
N. Vauvourer Island Holberg Swanson Bay. Triangle Island Winter Harbour (Quatsino)	50 39 50 37 50 52 50 32	$\begin{array}{c} 128 \ 18 \\ 126 \ 53 \\ 129 \ 5 \\ 127 \ 40 \\ \end{array}$	680	33 b 28 0 35.4 33 7		3 5 2 16	48 0 41 0 45 0 47 0	28 24 26 27-30	20 0 9.0 22 0 15 0	19 18 17 14	6 9 5 6 6.2 6 4	13 22 22 07 9,27 14 09	- - 1 22	2 24 5 50 1 30 2 50	24 19 22 22	7 12 9			··· ···
Lower Fraser River	49 14	121 31	52			1	17 n	.,	4 0	19	8.21	13 24	+7,20	1 32	22	9			
Agassiz Chillwack Hope Ladner New Westmuster North Nicomen Pemberton Hitchery Ruskin (Stave Falls) Staveston(Garry Point) Vancouver	49 10 49 23 49 05 49 13 49 12 50 20 49 16 49 21 49 17	121 57 121 25 123 4 122 54 122 2 122 33	21 500 330 59 125 136	28 8 27 1 22 8 30 5 29 6 19 7 28 8 52 0 32 5	- 3 5 - 5 8 - 3 9 - 5 1 - 3 6 - 5 0	3 26 21 5	45 0 43 0 44 0 45 0 40 0 43 0 46 0 46 8	25 27 25-27 31 1 26 25	- 1 0 - 2 0 - 8 0 - 8 0 0 0 8 5 12 9	19 19 19 19 13-19 18 19 19	8 8 11 9 7.5 10 9 8 9 9 1 11 0 7 3	10 65 9 79 2 27 8 84 8,80 3 20 8 28 5 37 9 62	+3 13 -2.52 +3.29 +0.46 - +0.05 +1 44	1.46 1.80 0.90 1.28 1.22 0.50 1.23 0.80	22 19 9 20 15 10 19 17 23	9 12 22 11 16 21 12 14 8			4 1 4 5
Upper Fraser Ricer																			
Babine Lake Barkerville Chileotin (Big Creck) Fort George. Fort St. Janies (Stunrts Lake) Hydraulic Quesnalle	55 38 53 02 51 40 54 28 52 59	126 26 121 35 123 0 124 12 122 30	4180 3100 2280	2,8 8 1 8 8 4 2 3 1 9 7 8 0	$\begin{array}{c} -10 & 5 \\ + & 1 & 7 \\ - & 6 & 7 \\ - & 4 & 6 \end{array}$	20 1	38 0 35.0 49.0 44.0 41.5 44 0 43.0	25 27 28 26 28 26 26	-37 0 -37 0 -38 0 -56 0 -48 0 -44 0 -38 0	18 12 13 12 12 12 12 12 12	18 6 12.5 22.1 20.9 18 5 15 7 16 0	2 25 7,50 0 70 3,43 2 59 4 00 2 20	-	0 25 0,50 0 51 0 70	11 17 5 18 15 19 8	20 14 26 13 16 12 23		::	
Okanagan Latley Hadley (Nickel Plate) References Relowns(Okanagan Mission) Penticton Princeton Richlands Summerland Vernon (Coldstream Ranch)	49 35 49 15 49 29 49 29 49 36 50 14	120 29	1771 1200 1650 1100 1246	18 1 13 8 20 4 19 1 22 6 11 4 14.7 15 4 15 3	$ \begin{array}{c c} -60 \\ -49 \\ -58 \end{array} $	16 -	50 0 40.0 48 0 42 0 50 0 44 0 45.0 48 0 41 0	25 27 31 25 25 25 25 25 25	$\begin{array}{c} -11.0 \\ -19.0 \\ -4.0 \\ -15.0 \\ -4.0 \\ -26.0 \\ -24.0 \\ -10.0 \\ -17.0 \end{array}$	12 12 13 19-20 19 13 -12 13 13	14.4 12.8 10.9 15.1 14.1 21.0 21.2 14.9 14.0	1,38 3 25 0,98 1 70 0 64 2 13 0 35 1 06 2 45	-0.24	0.17 0.45 0.25 0.30	15 11 10 12 12 10 2 10 16	16 20 21 19 19 21 29 21 15			
West Kootenay															 				
Crawford Bay Creston Grand Forks. Greenwood Howser Kaslo Nakusp Nelson Rossland.	49 45 49 2 49 5 49 52 49 29 49 5	118 27 118 49 117 0	1752 1760 3400	21.6 19.5 15.6 16.4 14.1 21.6 18.9 20.9 19.3	=	1 2 2 1 4 1 11 10	39.0 45.0 33.0 41.0 36.0 40.0 38.0 45.0 40.0	25-31 25 3-25 31 26-28 25 25 25 25	$\begin{array}{c} -50 \\ -70 \\ -130 \\ -130 \\ -20 \\ -20 \\ -25 \\ -30 \\ -15 \end{array}$	5 13 5-13 5-13 5-13 5 5 5	10 3 1	4 60 2.38 2.89 0 98 4 10 4.13 4.81 4.60 4.09	=	0.90 0.40 0.45 0.30 0.50 0.80 0.85 0.80 0.70	15 13 16 8 13 20 15 15 15	16 18 15 23 18 11 16 16 18		::	1 2
East Koolenay																			
Akamina Cranbrook Tobacco Plains (Elko) Wilmer	49 10 49 30 49 1 50 34	114 20 115 50 115 5 116 14	2684	13.7 18.3 9.2	-3.8	17 17	46 0 45 0 35 0	$26-29 \ 29$	-26 0 $-13 9$ $-18 0$	5 5 6	23 8 13.4 13 8	2.60 2.72 1.28	+ 1.21	0.50 0.60 0.28	13 10 6	18 21 25	::	::	  i
Thompson River														0.00		0.2			
Asheroft . Enderby . Harper's Ranch Kamtoops Nicola Lake Pemberton Meadows Salmon Arm Salmon Arm (Exp. Farm) Tappen Tranquille	50 32 50 41 50 9 50 42 50 41	119 7 120 29 120 39 119 35	1180 1245 2120 1152	14.7 15.9 14.2 14.3 12.1 14.6 16.0 13.8 19.8 15.3	-5 3 -10 4 -8 0	22	42 0 38 0 60 0 40 0 44 0 43 0 39 0 35 0 45 0 37 0	20 25 15 25 25 31 25 27 27 25 25	-15 0 -21 0 -16 0 -16 0 -30 0 -22 0 -11 0 -18 0 -12 0	18 12 13 13 12 12 12 13-19 13 13 13 19	13.3 14.7 14.4 12.0 17.5 16.0 10.5 14.1 15.0 10.4	0,40 4,15 1,82 1,44 0,78 4,70 3,85 3,15 4,11 0,69	+0 49	0.50	8 17 10 13 7 13 14 15 22 8	23 14 21 18 24 18 17 16 9 23			1 2
North Columbia River Glacier Golden Invermere Revelstake	51 14 51 0	117 29 118 6	4072 1476	11.7 8.1 7.9 16.9	$\begin{array}{c} -4.5 \\ -1.6 \\ -3.0 \end{array}$	11 11 1 1 1 2	33 0 37 0 40 0 40 0	27 27 29 1–29	-16 0 -29 0 -27 0	12 12	11.3 19.8 21.6 13.4	10.10 4.90 — 7.57	+2 01	2 2 50 0 80 2 1 30	25 11 22	6 20 9		::	::

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF AVADA, JANUARY, 1913.

\*Stations not furnished with Registering Thermemeters

																-				
				g				TE-511	FRATU	BE	TENTERITATION - SO									
STATION.		Latitude N	Longitude W	Elevation above sea level, in feet.	Mean.	Difference from average	Yr's Observations	Highest	Pafe	Lowest	Date	Mean daily range	Amount	Difference from average.	Heaviest fall in month	Days with 0 1 or m	No of fair days	No of auroras	No of thunderstorms	No of form
BRITISH COLUMBIA Con	_						_									_		_		
North Coast																				
Bella Coola Khtada River Prince Rupert Stewart Terrace	5.2 54 56	18	126 54 130 18 130 1	150 170 215	21 5 26 6 16,0 17 3	-3 4 	13 3 3 1	43 0 53 0 35 0 42 0	25-26 - 31 25-29 - 31	$\begin{smallmatrix} & & 0 & 0 \\ & & 4 & 0 \\ & 17 & 0 \\ & -9 & 0 \end{smallmatrix}$	19 18 17 18	9.3 7.4 6.4	6 68 11 33 6 00 1 66	+2 98	0 85 1 50 1 30 1 10	17 20 13 8	14 11 18 23			1
Queen Charlotte Islands																				
Ikeda Bay	52 53	17 58	$\frac{134}{132} = \frac{7}{9}$	5 30	34 5 35 1	2 8	.5 In	48 0 60 0	6 30	20 () 10 ()	15-18 16	5 2 15 4	6 79 5 10	-0.77	1 70 1 30	20 16	11 15			. 1
Atlin .	59	35	133 38	2240	-1 1		7	38.5	.30	-35 0	19	10-1	1.63		0.50	11	20	1		ь
YUKON-	0.,	0.7	100 01				.			0		• • •	, ,,,		0		-			
Carcross . Dawson	60	11	134 34 139 29	$\frac{2171}{1200}$	$^{-36}_{-31}$	$\overline{}$ 7 6	6 12	40 0 1 0	31 26	_4.1 0 62 0	17	17 2 11 0	1 42 0 67	-0.21	0 63 0 18	4	27 22		:	9
Mackenzie –																				
Ft Resolution .	61	()	113 0	800													* -			
Alberta — N. Saskatchewan River																				
Campsie Daysland Edmonton Eddnang Gilt Edge. Halkirk (Emsburg) Loveland Pakan (Victoria) Ranfurly (Waitelield) Sion. Wataskiwin	54 55 52 52 52 52 54 53 53 53	8 52 33 0 59 17 30 0 29 54 58	114 42 112 17 113 30 112 0 110 43 112 10 111 59 112 31 111 38 114 15 113 23	2158 2795 2000 2480	$\begin{array}{c} -2.7 \\ -2.8 \\ 0.8 \\ -2.4 \\ -1.4 \\ -4.9 \\ -0.6 \\ -0.0 \end{array}$	- 7 5 - 7 5 	6 29 2 7 3 9 2 11	48 3 44 0 47 5 44 0 40 0 40 0 42 0 46 0 49 0	28 28 25 28 28 27 28 27-28	$\begin{array}{c} -47\ 0 \\ -36\ 0 \\ -34\ 0 \\ -35\ 0 \\ -32\ 0 \\ -35\ 0 \\ -44\ 0 \\ -44\ 0 \\ -32\ 0 \end{array}$	19-20 11 19 19 19 19 11 20 11 19	17 6 16 3 14 5 20 2 16 0 18 7 20 5 24 9 17 9	1 92 1 00 2 49 0 60 0 65 0 40 1 12 1 84 0 89	+1 78	0.58 0.30 0.45 0.30 0.25 0.15 0.60 0.15	17 8 19 3 4 5 22 17 8	14 23 12 28 27 26 9 14 23	· · · · · · · · · · · · · · · · · · ·		
The Red Deer River																				
Alix Delia Delisbury Harmattan Hilsdown Lidedown Oyen Oyen Hol Deer Threehills Creek	52 51 51 52 52 52 52	24 38 40 45 14 58	113 10 112 25 114 8 114 23 113 29 113 44 113 49 113 11	3500 2×06 2783	-1 8 -1 0 8 0 - 2.9 3 1 0 5	-5 4 	10 2 11 5 9 6	45 0 39 3 50 0 46 0 47 0 45 3	27 28 28 27 28 28	-35 0 -34 5 -26 0 -38 0 -35 0 -35 6	11 12 19 18 19 11 11 11	24 0 15 2 20.1 25 8 20 9 22 0	0,82 1 07 1 30 0 75 0 72 0 95	2n,9n	0 26 0 40 1 00 0 25 0 20 0 20	6 6 2 4 6 9	25 25 29 27 25 22 			
The Bow River																				
Brooks Calgary Cardston Fatimaa (Playle Creek) Fatimaa (Playle Creek) High River Lawrence (Parkland) Lethbridge Lethbridge Macleod Medicine Hat Pincher Creek Strathmore Strathmore Sandial	50 51 49 50 50 49 49 49 50	2 12 59 35 16 42 43 44	114 54 114 2 113 18 112 54 113 53 113 26 112 51 112 51 113 24 110 37 114 4 112 34	3359 2952 3394 2961 3128 2161 3750	2 0 4 2 7 4 11.1	- 0 2	28 	40 0 50 0 47 0 46 0	28 27 28 28-29 2-28 27	-30 0 -30 0 -30 0 -30 0 -30 0 -30 0	11 11-18 20 20 47 19	17 2 29 0 24 1 17 8 28 7 22 2	1/32 1/80 1/00 0/80 1/10 0/41 0/45	+0 66 -0,19	1 00  1 80 0 40 0 36 0 30 0 15	4	25 30 27 24 24 24 30			
Rocky Mountains																				
Banff Blairmore	51 49	10 40	115 34 114 30	4542 4225	6.9	- 6 S	17	40.8	25	-33 4	11-19	17.5	1 21	0.09	D 44	11	20	: <sub>}</sub>		
Athabasca River Athabasca Landing	54	43	113 17	1650			10	43.0	1945	46.0	- 11	18.9	1.35	_	0 35	7	24			
Lunnford Pembina	54 54	33 12	114 19 114 0	1650	- 7.8 - 4.8	<u> </u>	3	43 0	28 27	-40 0 -47 0	11	21 6	1 15	=	0 70	9	24 22			
Peace River Beaver Lodge	55	2:1	119 24																	
Dunvegan Fort Vermilion Fort Vermilion (2) Peace River Crossing Spirit River	55 58 56 56	56 27 15 40	118 35 116 3 117 15 118 47	1305	-15.0		5	47.0	28	51 (0	12-19	17.7	5,00	-	4 00	b	25	1		-

\*Stations not furnished with Registering Thermometers

			_				Темреі	RATURE				Pre	CIPITATIC	N,	more.			s c	
STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean	Difference from average.	Yr's observations.	Highest	Date.	Lowest.	Date	Mean daily range.	Amcunt	Difference irom average.	Heaviest fall in month.	Davs with 01 or m	No. of fair days.	No. of Auroras.	No. of thunderstorms	No of foes
SASKATCHEWAN-																			
Qu'AppelleRiver	0 /	0 /																	
Brownfull (Grenfell P () ) Brownlee	50 23 50 43	3 102 53 5 106 0	1957	11 2	— 8 6	22	36 0	26	-45 0	19	19.5	1.15	10.91	0.40	6	25	-: '		
Buckmun Crescent Lake Estevan	50 59 49 10	0 102 25 2 103 4	1658 1858	$\pm \frac{11}{10}$	$=\frac{7}{4}\frac{9}{9}$	9 12	39 (I	29 29	$-41.8 \\ -34.0$	21 19	23 2	1 04 0 20	+0 44 -0 46	0.35	10	21 29			1
Fort Qu'Appelle Hubbard Drumagne)				= \( \frac{3}{3} \)		1 2	40 0 38 0	28 29	-10 I -17 0	34 20	22 6 22 5 19 4	0.46	-0.40	0 15	14	17		:	
Humboldt Internal	51 1 52 13 51 23 50 23	2 105 9 2 105 23 8 103 40	1924	- 9 4 n 5	- 6 5	22	39 ()	28	- 15 5	18	19 6	0.40	+0.46	0 20	2 7 8	29			::
Indian Head . Kamsuck. Manor	49 4	3 102 2	2061	II 12 6		4	40 0 22 0	29	_15 u	19	22 2 22 7	0 80 1 45	_	0.30		24 23			· · ·
Moose Jaw Mooseman	50 2	0 101 37	1759 1884 1870	-16 9	+ 2 1	15	42.0	28	- 10 0	20	24.3	0.64	+0.04	0.13	9	22 28			
Muensier (St Peter's Mon ) Pilger Pense (Gatesgarth )	52 2 50 2	0 105 0 5 105 9 0 105 0	1879	-16 9 -13 1 5 1	- 73	9 2 18	35 0 40 0 40 0	25	-50 0 -52 0 -43 0	20 20 20 20	19 9 21 2 19 4	0 46 1 49 R	-0.33	0 21 0 66 R	3 5 0	26			
Qu'Appelle Quill Lake	50 3	0 103 47 4 104 14	2115 1600	- 6 1	- 8.1	29	40 0	28	-11 0		19-1	1 12	= 0.44	0.25	10	21			
Regina Strassburg Varbo (Fairfield)	50 2 51 3	5 104 57	1885	= + 0	3 6	26	37.0	98-29	— la u	20	21.5	0.30	-0.08	0.10	- fi	25			
Yellow Grass Yorkton	49 4 51 1	9 104 9		$\frac{-33}{19}$	_	3	39 n 43 n	28	- 11 0 - 13 0	20 20	$\frac{25}{24} \cdot \frac{5}{3}$	0.40	_	+) -(+)	. 1	30			
8. Saskatchewan Biver																			
Chaplu East End (Divide) Kelyinhurst (Nashlyn)	50 2 49 3	1 108 49	2202	$-31 \atop 40 \atop 31$	40	25 4 2	41 0 40 2 13 0	25 25 25	-13 0 -12 0 -11 0	1º 12	$\frac{22}{15} \frac{9}{2}$ $\frac{24}{4} \frac{4}{4}$	0.45	-0.64 	0 02	6 8 4	$\begin{array}{c} 25 \\ 23 \end{array}$		::	3
Kelymhurst (Nashlyn) Larchmount (Glenbryan) Ohvet	51 4 49 2 49 5 51 2 50 2	6 108 10 1 109 29 4 107 27 9 108 57		3 1	_	3	13 0 42 5	29	-11 0 -40 6	20 20	24 4 24 6	9 67	_	0 20 0 15	6	27 25		1	i
Rathmallen Swift Current	51 2 50 2	0 108 57 0 107 45	2439	5.9	-	3	36.8	20	-51.0	20	19.3	0.67		0.20	. 5	26		1	
N. Saskatchewan River				)															
Buttleford . Lloydminster .	52 4 53 1	8 110 0	1620															1:	5
Luseland Outon Lake	52 53 5	5 109 34 2 109 59 0 108 20	1700	-42 $-119$ $-132$		6	10.5 45.0 42.0	28 30 28	-42.0 $-45.0$ $-55.0$	20 20 20	18.7 16.8 15.3	0.75	_	0 40	3				1
Prince (Meota) Scott (Ex. Farm) St. Walburg	51 5	9 109 30	17400	8 fi	_	2	28.8	28	-18 8	20	21 1	1 07 0 98	_	0 77 0 59	10	28 21			
Waseen	53	6 109 29		- S 6		6	40.0	27	- 45 0	20	16-5	(F.3t)	_	0.10	5	. 26	2		
The Saskutchewan Forks Cingoness (Star City)	52 3	2 104 13														,.			
Duck Lake Melfort	52 3 52 5 52 4 53 1	4 106 20 7 104 30		-13 4 $-12$ 4	- 1	4	39.0	28 28	- 15 0	21	19-8	0.95		0.30		25		1	
Prince Albert Rosthern Saskatoon	-52 - 4	0 106 0 0 106 20 5 106 30	1432 1657 1571	-12 4 $-13 3$ $-9 0$	-9 1 -10 5	- 3	41 0 38 6 41 0	28 29 29	$-45 \ 5$ $-49 \ 5$ $-51 \ 0$	20 20 20	16 9 17 4 18 5	0 80 0 55 1 00	-0 07 +0 51	0 20 0 20 0 60	3	26 28 26		::	
Lower Saskatchewan River								-											
Cumberland House Lost River	53 5 53 1	6 102 16 7   104 21		-16 6	_	3	32.0	29	-45 0	20-21	17.0	_	_						
Manitoba-																			
Qu'Appelle and Assini- boine Rivers																	1		
Awetne (St. Albaus) Borssevang,	19 4 59 2	2 99 35 5 101 1	1180 1703	- 6 4	- 4 4	26	37.5	28	34 7	1,	20.0	1 68		1 0 25		13	1		,
Brandon Carberry . Carman	19 5	1 99 57 2 99 20 1 98 0	1176 1258 872			26	_					1 10	+11 27	0 20	- (	24			
Tillview	19 5	3 59 3 5 100 33	1232 1400	8 7	- 4 3 - 7 6	27	37 0	28 29	- 38 n	6-20	16.9	0.75	-0 27		. 5	26			Ė,
Minnedosa Ninette Ninga	49 2	5 99 50 4 99 38 4 99 51	1363 1649	- 8 7 - 8 2 - 3 5 - 4 2	- 7 6	29 2 3	34 0 36 0 35 0	28 28 28	- 3× 3 -34 0 -33 0	6 20 20	19 4 21 9 19 4	0.83	-0.05	0 30	13	18			
Pretson Proestone	49 1	1 101 5 34 100 58 57 98 17	1531 1400									1.1						11	
Portage la Pravue Portage la Ptairie (2) Russell	49 7	57 98 17 56 98 17 59 101 20		— 7 2 —	4 3	23 21	28 0 39 0	. 1	-33 0 -41 0	6 19	19 4	3 05	+0 15	0 80		23	٠	::	1.
Treberne	49 3	6 98 40	1212	_ 4 0		1	25 0 34 0	28	-36 I -33 0	6 20	20.3	1 40		0 52	4 16	27 15			
Virden  The Red River	49 (	100 55	1444					• •											
Almasippi . Morden .	49 1	14 99 20 11 98 6 57 96 42	978	$\begin{array}{c} -4.0 \\ -3.2 \\ -7.8 \end{array}$	-11	11	33 0 55 0	28 29	$-35_{-31_0}^{0}$	6	19 6 16 9	0 45 1 20 1 20	_	0.10	5	26 25		::	
Oak Bank — Stony Mountain Winnipog.	50 4	67 96 42 10 97 14 13 97 7	800 803 760	$\begin{array}{c} -4 & 0 \\ -3 & 2 \\ -7 & 8 \\ -6 & 7 \\ -6 & 7 \end{array}$	-6.0 $-5.3$ $-4.1$	18 31 39	55 0 28 0 27 0 28 9	1 1 1	→36 3 →38 0 →31 2	12 1	16 9 11 5 21 9 14 8	1 20 0 50 0 75	$^{+0.29}_{-0.16}$	0.40	- 2	26 29 14	. 2		1.

\*Stations not furnished with Registering Thermometers

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STATION	Tatitude N.	Permission W	Elevation above sea level, in feet	Mean.	Difference from average	Ye's object and table	llighest.	Date	Lowest	Date	Went dark range	Vnount	Difference from	Beavest fall in menth	Days with 01 or no	No. of fair days	No of appearas	No of thunderstorms	No of fogs.
Wanitona- Continued															_				_
Dauphin Lake and River Dauphin Moose Horn Bay) Artkens- ville) Berens River	51 S 51 15 12 15	10 × 2 50 53 23	957 746	- 5 5 -12 3 -16 4	_		26.5	1	- <u>11</u> (	1921	200	1.	-	0.45 0.50	5 13 3	26			1
Leke Winnipegosis Le Pas Swan River	52 - 6 54 - 49	101 15 101 15	1112	-17.5			1, 0	23	\$1.0	21	1 - 1	1 17		0.50	10	21			
Untario-																			
The Lake Superior Districts  Rainy River  Kenora	4.2 4~	4 .2	1102	- 6 1	4-2	11	25.0	1	," n		11 .		0.50	0.00	4	27			
Thunder Bay Kakabeka Falls Port Arthur Schreiber	48 25 48 25 48 5 5	81 12 81 12 81 13	1012 644 553	0 4 1 0 5 6		i.	10 P 17 Q 17 Z	i I I	- # - # 21 \$	1.		0 1	0 15	0 15 0 15 1 00	16	23 15 26			
Alyonia Bruce Mines Copper Cliff Porcupine Providence Bay Tilmeins Sandy Liff- White River	\$0 18 40 30 15 40 48 35	\$1.55 \$0.59 \$2.14 \$5.16	595 1252	17 7 15 7 1 4 21 n 4 0	'	10	11 0 11 0 11 0 1 0 1 0 1 0	17 17 17 17 17	= 12 + 25 0 25 0 1 4	1 11 -11	1017	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 01	0 45 0 45 0 40 0 50 0 38	15	18 18 24 25 16			
Nipissing Cochrane Hailey bury Montreal River	49 2 47 29 47 47	81 - 0 79 - 59 70 - 29	946 687	11 6 i1 7	1 6		15 2 10 6	17	-1:1			10 1 × 2	0.51	0.59 0.40	16	15			1
Upper Ottawa River Rutherglen (Lake Talon) Stonechti (Rockhille)	46 15 16 9	74 15 .5 6	557	15 1 13 8	= ; ;		11 - 11 11- 11	17	15	20	1		U 13 -1 19	n 50 n 11	[1 [6]	20 15			1
Upper St. Lawrence and Lower Ottawa Rivers Almoste Hoomfield Kingston Montagne North Gover Ottawa Renfrew	45 12 43 50 44 55 26 45 26 45 26	76 13 77 24 76 29 75 57 75 43 75 42 76 59	390 260 285 294 416	20 5 5 7 20 5 7 20 5 7 20 5 7	- 7 I	1 1 3 2 m 2 m 2 m 2 m 2 m 2 m 2 m 2 m 2 m 2	45 2 18 0 44 0 47 0 43 0	11 2 31 31 17	11 0 -5 2 -2 1 -10 0 -25 6	1 - 4 - 1 - 1 - 1 - 1 - 1	14 0 1 4 17 1 15 2	64 1 15 1 35 1 5 1 5 1 6 1 6	+ 1.72 - 2.01 	0.55 1.64 0.74 0.84 0.77	15 11 18 11	16 20 13 20 12 16			3
Georgian Bay Counties Bartre Beatrice Coldwater Collingwood Gravenhurst Huntsville Midland Markdale Ordilia Owen Sound Parry Sound Ronville Shalburne C plands	44 25 8 44 35 44 34 34 34 34 34 34 34 34 34 34 35 19 35 15 15 15 18 35 18	79 44 79 20 79 40 79 20 79 20 79 53 79 53 79 53 79 53 79 53 79 53 79 54 70 55 70 25	750 750 750 775 635 1038	21 5 22 1 21 4 25 5 25 7 21 4 21 6 18 6	= 80 · 51 = - · 6 · - 72	12 12 15 15 15 15 15 15 15 15 15 15 15 15 15	40 0 46 0 46 0 46 0 47 0 41 0 45 0	17 17 17 2-25 20 17 17	- 12 0 - 5 0 - 12 1 - 12 0 - 11 0 - 12 0 - 20 1	2 25 12 2	17 11 10 10 10 10 10 10 10 10 10 10 10 10	3 ) - 25 - 25 - 150 1 × 5	0.67	9 7 8 0 82 0 50 0 50 0 57 0 80	13 17 10 10 16	18 - 14 21 - 14 - 25 - 15			
Lake Huron Counties Birnam Clinton Goderich Lucknow North Brace Point Clark Sarnia Southampton	13 2 43 32 43 45 43 56 44 23 44 5 12 59 44 36	\$1.55 \$1.57 81.41 81.30 \$1.25 81.14 \$2.29 \$1.21	595 586 656	27 S 25 P 27 P 25 P 27 P 27 P 27 P 27 P 27 P	+ 5 2 2 4 3 6 × + 5 1	51 10 22 26 24	47 1 48 0 51 0 47 8 48 0 49 9	17 18 2 17 17 17 17 17 17 17 17 17		0 11 11 11 29 28 29	11.5 12.0 12.0 12.7	7 19 5 2 19 2 19 3 10 10 10 10 10 10 10 10 10 10 10 10 10	-2 38 +1 69 +0 85 +0 35 +0 35 +0 31	1 62 0 88 0 92 0 67 0 58	15 15 16 18 14	18 16 21 13 17			1 2 3
Lakes St. Clair & Eric. Nlagara Peninsula Chatlam Cottam Cottam Peleo Island Port Burwell Port Stanley Rt. Catharins Stroney Crock William Wildiam Centre. Windam.	42 2 44 13 44 15 16 42 27 42 40 43 13 42 35 42 59 42 20	82 45 71 86 82 65 82 65 82 65 80 18 81 10 79 45 80 17 80 17	595 606 585 592 635 592 347 292 577	29 5 28 6 32 6 36 4 29 0 29 4 29 1 31 9 32 6 32 6	+ 6 0 + 1 0 -1 3 + 7 2 + 5 8 + 7 4 ; 10 8	24 25 1 26 18 37 26 26	51 0 53 0 54 0 60 0 45 0 54 0 46 0 52 0	47 47 47 49 20 20 47 20 20 40 20 47 20 20 47 20 20 47 20 20 47 20 20 47 20 20 47 20 47 20 47 47 47 47 47 47 47 47 47 47 47 47 47	6 0 6 0 11 0 11 0 5 0 7 0	15 12 12 13 14 14 15	15 (8) 23 (8) 24 (8) 24 (8) 24 (8) 10 (7) 11 (7) 12 (8) 13 (8) 13 (2)	1 22 6 01 1 80 1 80 1 80 1 84 1 7 7 2 7 7 1 61	+1.76 +3.68 -1.21 +2.06 +2.08 +2.08 +0.75 -0.11	0 56 1 30 1 462 0 68 1 68 0 62 0 62 0 62 0 62	12 10 17 4 9 10 17 17 13	19 21 11 22 12 12 13 14 15 16			3

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JANUARY, 1913.

• Stations not furnished with Registering Thermometers.

			g				Тімі	TRATU	161.			PRE	TPITAT	ION	more.			e B
STATION	Latitude N.	Longitude W.	Elevation above sea level in feet.	Меап.	Difference from average.	Yr's Observations	Highest.	Date.	Lowest.	Date	Mean daily range.	Amount	Difference from	Heavest fall in month.	Days with 01 or m	No. of fair days.	No. of auroras.	No. of thunderstorms.
Ontario—Continued—																		
West-Central Counties	. ,	. ,			1													
Alton Brantford Blora Gueiph Listowel bacton Stratford Woodstock	13 51 43 10 43 41 43 33 42 59 43 12 43 23 43 8	80 5 80 21 80 24 80 16  81 13 80 25 81 0 80 47	1250 750 1274 1050 808 840 1191 980	25 7 29 6 24 6 27 3 23 5 29 6 29 3 28 7	+ 7 3 + 9 4 + 5 8 + 9 2 + 9 4 + 7 5 + 7 3 + 8 2	27 32 15 25 15 30 24	44.0 51.0 43.0 46.0 46.0 50.0 48.0	21 20 17 26 19 17 17-31	$\begin{array}{c} -5.6 \\ -8.0 \\ 4.0 \\ 0.0 \\ 2.5 \\ 7.0 \\ 6.0 \end{array}$	10 12 9 9 8 13 13	14 8 14 9 12 8 13 1 13 1 14 6 12 4 14 5	2.54 5 54 4 36 3 92 3 86 9 26 5 78 4 15	$\begin{array}{c} +0 \ 27 \\ +3 \ 12 \\ +1 \ 34 \\ +1 \ 92 \\ +0 \ 33 \\ +5 \ 54 \\ +2 \ 95 \\ \\ -0 \ 68 \end{array}$		9 17 12 10 17 15	22 22 14 19 21 14 16		:: :: :: :: ::
Lake Ontario Counties					1													
Agineourt Aurora Hamilton Oshawa Toronto Toronto Is.(Lakeside Home) Uxbridge Wexford	43 47 43 57 43 16 43 53 43 40 43 40 44 5 43 44	79 16 79 24 79 54 78 52 79 24 79 24 79 8 79 17	590 886 303 331 350 886 555	28 0 24 1 28 1 31 3 32 2 25 4 27 4	+ 8 5	17 5 4 73 8 9	50 0 54 5 45 0 51 6 47 0 45 0 48 0	17 17 18 17 17-31 17-31	$\begin{array}{c} -3.0 \\ -10.5 \\ -4.0 \\ 3.7 \\ -6.0 \\ -10.0 \\ -5.0 \end{array}$	9 8 9 9 9 9	12 1 14 8 14 6 13 0 12 9 11 0 12 3	4 11 5 62 2 09 4 36 — 3 13 4 11	+1 81 +3 52  +2 04 	0 67 1 00 1 39 0 69 0 60 0 86	15 14 3 14 9 9	16 17 28 17 - 22 22		
East-Central Counties															1			
Bancroft Haliburton Kinmount Lakefield Lindsay Madoc Norwood Peterboro	45 1 45 1 44 45 44 25 44 20 44 30 44 17 44 54	77 50 78 28 78 38 78 15 78 45 77 29 78 19 78 18	1050 920 850 872 575	21 3 18 6 24 6 23 7 24 1 25 2	+ 7 4 + 4 5 + 9 2 + 9 8	32 9 9	48 0 42 0 43 5 45 0 45 5 41 0	16 17 17 17 17 18 2–31	$\begin{array}{c} -22 & 0 \\ -25 & 0 \\ -11 & 0 \\ -10 & 0 \\ -11 & 0 \\ -14 & 0 \\ \end{array}$	9 28 9 9 9	19 6 21 9 16 0 11 9 16 4 17 0	2 30 3 95 4 28 2 69 1 85	-0 08 -2 15	0 50 0 76 0 50 0 60 0 45	11 14 17 12 9	20 17 14 19 22		
Quebec-																		
Middle St. Lawrence																		
Brome Cap Rouge D'Israeli Montreal Quebec Ste, Anne de Bellevue Shawingan Falls Sherbrooke	45 10 46 48 45 55 45 30 46 48 45 27 46 34 45 32	72 36 71 18 71 21 73 35 71 13 73 59 72 43 72 5	896 187 296	24 3 15 7 18 5 22 1 16 4 22 5 9 9 22 4	+11 6 + 8 9 + 6 3	32 2 3 38 38 38 7 10	$\begin{array}{c} 52 \ 0 \\ 43 \ 0 \\ 52 \ 0 \\ 46 \ 0 \\ 43 \ 2 \\ 49 \ 0 \\ 39 \ 0 \\ 47 \ 8 \end{array}$	3 18 2 17 17 17 17 16 3	$\begin{array}{c} -19 & 0 \\ -22 & 2 \\ -26 & 0 \\ -11 & 3 \\ -17 & 8 \\ -5 & 0 \\ -33 & 0 \\ -17 & 4 \end{array}$	13 29-30 13 13 29 9 29 13	15 3 20 0 25 3 14 1 16 7 12 4 20 9 18 0	1 15 5 96 5 01 4 81 3 72 6 16 4 70 3 81	-0 98 - +1 06 +0 52 -	0 55 0 83 0 92 0 86 0 58 1 11 0.70 0 50	5 22 12 20 20 18 16 22	26 9 19 11 11 13 15 9		1
Lower St. Lawrence & Guif																		H
*Anticosti, E. Pt Anticosti, S. W. Pt Anticosti, W. Pt *Sharicosti, W. Pt *Bicquet *Cape Chatte *Cape Magdalen *Father Point Ste Anne de la Pocatiere	49 6 49 52 48 25 49 6 49 16 48 31 47 22	61 42 64 32 68 53 66 45 65 20 68 19 70 2	30 30  93 20 65	17 9 15 9 16 2 17 4 15 3	+ 4 4 + 5 6 + 8 6	32 24 30 35 2	40 0 45.0 45 0 46 0 45 4	31 3 18 3 18	-12 0 -12 0 -12 0 -12 0 -12 0 -25 0	29 28 29 29 31	- - 17 9 12 7	4 15 2 51 5 30 3 62 4 13	+3 06 +1 07	0 70 0 60 1 00 1 00 1 079	13 -8 12 15 11	18 23 19 16 20		
_ake 6t. John																		
Chicoutimi Chicoutimi (2) Lake Edward La Tuque Mistassini *Roberval	48 25 47 39 47 27 48 54 48 31	71 5 72 15 72 48 72 15 72 15 72 13	1333 520 360 352	10 4 9 2	=======================================	35 2 3 	43 0 59 0 42 0	18-31 31 18	-39 0 -48 0 -37 0	29 28 28-29	16 9 24 8	2 64 1 20 3 60 0 99	= = = = = = = = = = = = = = = = = = = =	0 60 0 30 0 70 0 25	20 7 10 11	11 24 21 20		
The Northwestern Districts																		
Abitibi Manouan Crossing Weymontachingue (Dam A) White Shore Lake	48 33 47 54 48 12	79 22 73 50 75 43		6 0 	+ 4 6	1	42 0 - 41 0	16 18	34 0 ' 44 5	7 - 13	21 8	1 55	-0 43 	0 40	9	22 	::	::
The North Shore		i																
Clarke City	50 10	66 25			••													
NEW BRUNSWICK—  Chatham Dalhouse Frederiction Monoton *Point Leprenux St. John St. Stephen St. Stephen Sussea	48 4 15 57 46 9 45 4 45 17 45 11	65 29 66 22 66 36 64 45 66 28 66 4 67 16 65 38	21 39 164 50 30 70 35	18 2 13 7 21 9 22 8 30 0 28 3 25.6 24 6 17 3	+ 6 8 + 6 0 + 9 7 + 7 1 + 8 7 + 8 6 + 9 0 + 9 5	38 31 41 15 34 40 16 16	50 5 42 0 51 4 54 0 48.0 51.5 55.0 56 0	3 18 3 31 3 3 3 3 3	$\begin{array}{c} -12 & 0 \\ -20 & 0 \\ -11 & 0 \\ -4 & 0 \\ -2 & 0 \\ -1 & 0 \\ -13 & 0 \\ -6 & 0 \\ -13 & 0 \end{array}$	29 28 10 9-29 29 10-29 10-10	19 1 16 5 18 9 22 6 17 3 19 0 21 8 21 8	3 38 4 20 4 07 2 35 4 12 4 27 3 22 3 60 5 03	- 0 20 +1 08 +1 10 -0 26 -0 58 -0 27 -0 88 -0 95	0 74 1 20 0 86 0 60 1 20 1 10 0 80 1 40	17 9 15 7 12 15 8 8	14 22 16 24 19 16 23 23		

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF ANADA, JANUARY, 1913.

\*Stations not furnished with Registering Thermometers.

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					sen				ТЕМР	ERATU	101			Pre	CIPITAT	ION	more			9 2	
STATION	_	Latitude	:	Longitude	Elevation above se level, in feet	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range	Amount	Difference from average	Heavest fall in month	Days with .01 or m	No. of fair days	No. of Auroras	No of thunderstorms	No. of fogs
Nova Scotia—		0 /		,																	
Advocate Antigonish Halifar Kentville Mergonish New Germany Parrsboro Port Hastings *Sable Island, E. Pt Sable Island, Main Statton) Sydney Truro Whitehend Windsor Wolfville Yarmouth	45 45 45 45 45 43 46 45 44 45 43	39 39 39 58 57 10 22 15	61 63 64 61 59 60 63 61 64 64	59 36  19 22 46 6 10 18 8 6	50 88 40 40 45 25 25 35 77 20 90	27 8 0 30 2 2 24 9 27 3 28 0 22 8 3 26 4 26 8 29 3 32 9	+ 6 1 - 0 4 + 5 0 + 7 4 + 7 7 + 6 3	1 1 21 14 39 38 10 12	54 2 54 0 51 5 55 0 38 0 57 5 56 6	18 13 3 12 4 12 15–31 4 3 4 13 3 3 3 3	$\begin{array}{c} -\frac{0}{2} \frac{0}{0} \\ 0 \\ 2 \\ 6 \\ 0 \\ 0 \\ 8 \\ 5 \\ 0 \\ \end{array}$	30 12 10 30 10 10 29	17 6	3 57 3 17 2 61	+1 45 +0 98 -0 44 +1 70	0 92 0 74 0 95 0 57	17 16 17 14 13	28 14 15 14 17 18		. 1 . 2 	1 4 1  7 1 2
P. E. ISLAND-																					
Charlottetown Charlottetown (Exp. Farm) Hamilton	46 46	14		7	38 75	23 6 24 2 26 3	$+\frac{4}{8}\frac{9}{7}$	2	48 5 50 0 48 0	3 4 4		29 10 14	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3 45 3 59 2 14	+0 04	0.53	16 18 12	13			1
Newfoundland— *Amour Point Burin *Cape Norman Fogo. *Point Riche Fort aut Basques St. George's St. John's.	50	38 43 42 35	55 54 57 59	52 17 25	27 30 35 27	26 0  11 4 22 3 22 1 22 3	- T 9	30 4 20	49 6	4 3 3 4	-15 0 -15 0 -15 -12 -2 0	14 29 28	20.0 	2 20 6 48 4 02 3 79		1 22 	22  3 24 28 14	9 27 7 3 17			1
LABBADOR— North West River  Burmuda— Prospect	32	. 17	64	46	151	65 0	+ 2 5	22	74 6	3	55 0	10-11	10 7	2 20	-2 70	0 56	16	15			

### PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING JANUARY, 1913.

Section   No.			RA	INFAL	A.	1		SNOW	FALL.		
Might Lake		in D	No of lays .01	No. of Fair	Heaviest Fall	Date	111	No. of	Heaviest Fall	Date	REMARKS
Amentong  Merwer Lake,  Bernarde Abley (Loune CV)  5 30	н Собимвіа—										
Armstrong Armstrong Armstrong Armstrong Bernare Juliey Louis CV   5 20   12   8 0 81   1 82 0 6 15 6 0 15 6 0 15 6 0 15 6 0 15 6 0 15 6 0 15 6 0 15 6 0 15 10	h Lake						49.1	21	8.8		
Heaver Jakes   Louis V.	strong						32 5	17	× 0	7 /	
Corganization No. 141	ser Lake.	5 30	17	- 8	0.81	1	8.2	6	4.5	6	
Domains Island   294   9   10   091   7   24   0   10   10   10   11   11   11   12   13   14   14   14   14   14   14   14	atlam	5.86	6	17	3 56	24	47.8	8		20	
Forgestion   Lake	boo Road No 141 man's Island	2 94	. 9	16	0.91	7	24.0	6	_		
Hechender   1	uson .	3 36		12	6.98						
Informer	raulie						48 0	15	7.5	30	
Joseph River   Heart Crowley   6 25   5 0   199   25   101   5   7   7   7   14	rmere .						13 4	8	3.0	8	
Lattic Qualcum  3 07 7 29 0 92 21 17 0 1 4 8 0 16  Mans Harbour  8 03 2 25 0 02 21 17 0 1 4 8 0 16  Mans Harbour  8 03 2 25 0 02 21 17 0 1 4 8 0 16  Mans Harbour  8 05 15 15 15 15 18 1 28 17 0 9 21 0 19  Rose Croek  9 8 0 68 21 31 0 14 15 0 27  Weelfity  Barsh  8 10 2 4 4 2 0 2 26  Rose Croek  9 8 0 68 21 31 0 14 15 0 27  Weelfity  Barsh  8 10 0 2 5 1 5 3 3  Rosenarhum  8 10 0 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 21  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  9 10 10 7 0 3 0 20  Rosenarhum  10 10 10 10 10 10 10 10 10 10 10 10 10 1	an River (Bear Creek)	6 25	5	9	1.99				17 0		
Monte Creek	by	3 07		20	0.92	24			S 0		
Rock Crock   1	te C'reek						12.0	3	5.0	4	
Weelfife	k Creek						18/3	19	5.0	23	
Besnarb Besnar		2.64	;ı		0.68	. 23	51 0	14	12 0		
Barch	TA-										
Hausderheiten   Hausderheite	lo:						4 5 6 2				
Brooks     11 0 7 6 7 3   Recover Mires     10 0 7 6 7 3   Recover Mires     10 0 7 6 7 3   Recover Mires     10 0 7 6 7 3   Recover Mires     10 1 0 7 6 7 3   Recover Mires     10 1 0 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 3   Recover Mires     10 1 0 7 6 7 6 7 8   Recover Mires     10 1 0 7 6 7 6 7 8   Recover Mires     10 1 0 7 7 6 7 8   Recover Mires     10 1 0 7 7 6 7 8   Recover Mires     10 1 0 7 7 6 7 8   Recover Mires     10 1 0 7 8 7 8 8   Recover Mires     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8 9 8   Recover     10 1 0 7 8 9 8   Recover     10 1 0 7 8 9 8	derheim .			•							
Columns	ks						11 0		6.7	3	
Cowleys Codeleyed Codeleyed Cold Service Col	man,					• •	27.0	. S 12	5.0	15	
Claresiolin	lev						23.1	13	7.0	3	
Danstalic (Free Lakes   20 9   20   50   24   Grave Lakes   20 9   1   20   3   John March   20 9   1   20   3   John March   20 9   1   20   3   John March   20 9   1   20   3   John March   20 9   3   5   5   5   John March   20 9   3   John March   20 9   3   John March   20 9   3   John March   20 9   3   John March   20 9   3   John March   20 9   John Marc	esholm .	,					10.1	ā	tc 0	3	
Jumpag Doual	stable (Five Lakes)						20.9	20	5.0	24	
Lord Say   Lyudon	sy Lake ping Pound						2 0 9 2		2.0	3 1	
Luncham	ı Sloy							_			
Lethindize	ham						12,2	3	6 2	4	
Machest	budge				R	25	11.0		6.5	3	
Montain View   22 0 7 5 0 3   Nation	eroft						13 0 19 3	4			
Nanton	atam View						23 0	7	5.0	3	
Pelysko	on				1		5.0	3	3.0		
Store   Persons	eko								6.0	3	
Tilley Writing-on-Stone (Courts) Writing-on-Writing-on-Stone (Courts) Writing-on-Wr											
Writingon-Stone (Contist)   Signature   Willow (Contist)   Signature   Writingon-Stone (Contist)   Writingon-Sto	v .						4.2	2			
Sekarenewa New Merident New Mer	ing-on-Stone (Coutts)								5.5	3	
Carl Lake	CHEWAN-						55) 11	107	,		
Last Mountain   Maple Creek	Lake						9.0	5	3.0		
Mendow Lake   Marthe Ct	Mountain							`,			
Willow Crock (Sattle Ct )   0.44   1   22   0.04   15   16 5   8   35   2   2   2   2   2   2   2   2   2	e Creek						2.5	1	1.0	10	
Cartwight Debrame    Society   Socie	ow Creek (Battle Cr.) (1)	0.04	1	22	0.04	25	16.5		3.5	2	
Nortgary (Swan Lake Right)   Right	wright						8.5		1 3 0	30	
Rose Brak   Strature	may (Swan Lake						2.8	5	1.0	29	
Name	d City Bank						8.3	13	2.0		
Cherthon    Deer Park   2 53   90   14   0 51   20   6 9   7   2 5   11     Dutton   4 23   8   19   1 00   16   6 0   4   2 0   3-12     Emershal   1 38   3	to	2.08	1.1	10	0.79	2		-	9.5		
Dutton	Iton .									Account	
Emeslade   188   3   19   0   81   21   22   0   9   1   5   21   27   Fort Frances   2   8   9   15   0   87   22   11   5   7   3   0   18   Generatowa   2   8   9   15   0   87   22   11   5   7   3   0   18   Generatowa   2   8   9   15   0   87   22   11   5   7   3   0   18   Generatowa   2   8   9   15   0   87   22   11   15   7   3   0   18   Generatowa   2   8   16   0   17   21   3   5   8   10   12   Funceton   1   6   8   23   0   60   3   3   5   3   0   12   Funceton   2   7   6   22   1   100   3   9   0   3   40   19   Further of the state o	on 4	4 23	8	19	1 (0)	16	6.0	4	2.0	3-12	
Coorgetows   2 So   9   15   0 S7   20   11 5   7   3 0   18   15   15   15   15   15   15   15	Frances			19	0.81	21			1 5 1 2	21-27	
Grand Valley   2 3 3	getown	2 85	9		0.87		11.5	7	3.0	18	
Princeton   SectorArm   Sector   Sect	d Valley 2	2 53	8	16	0.75	21	13.5		3.0	8	
Strathrov	eton										
Watford	hroy	3.76		19	0.84	3	9 0 12 5		4 0		
Westminster   5 23   9   10   1 63   6   9 0   3   4 0   3   Wooder   Wester   1 93   7   11   0 57   21   21 5   13   4 0   7   Wattemw(1   0 54   3   19   0 49   17   21 5   9   5 0   20   Watton   1 21   4   19   0 41   31   26 0   8   6 0   21	ord 3	3 64	8	23	0.86	6					
Wesley	minster	5 23	9	10		6 .		3		3	
Waiston   0.54   3   19   0.49   17   21.5   9   5.0   20	ev	1.94	7	11	0.57	21	21 5	13			
1	ton 1	0 84 1 21		19		17	$\frac{21}{26} \frac{5}{0}$			20 21	
Kipawa Dam   Lake CMa   Construction   Constructi	c— : Lake (Rivière Desert) — ::		2	18	2 92		20.0	11	6.9	20	
Porkins Milks	wa Dam me					01					
Timiskuming	ins Mills	0.93		22		-;	2.5		0.5	6-11	
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# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE TERST CLASS DURING THE MONTH OF JANUARY, 1913.

a Barometer not reduced to sea level

-					RESSI	RE.		phty	Tin .	(tely			Lus	E 116	)'s ril	1115	oli ER	- 40			VE	LOCITY OF Wind
STATION	Latinde N	Longitude W	Elevation along esta	Mean reduced.	Highest.	Lowest	Range.	Mean relative humility	n amount	No of days completely   clouded  -	Z	N.E	. E.	7.	<i>J.</i>	11 1/2	11	N.W.	Ü	Total number of observations	Mean miles per hour	Maximum velocity Date and direc- tion from.
BRITISH COLUMBIA— Atim Barkerville Kamloops Asaatun Asaatun Trinagle Island a Franquille Vancouver Victoria	59 35 53 2 50 42 49 10 54 18 50 52 50 41 49 17	5 7 153 38 121 35 120 29 123 37 150 18 129 5 120 29 123 5 124 19	1245 1245 125 170 680	30 06 23 94 30 68 29 93 29 83 29 83 28 83 30 04 30 02	30 45 1 30 56 1 30 51 . 30 54 1	29 35 29 52 29 12 29 04 29 21	1 13 1 04 1 39 1 59 1 35	\$1 96 90 95 84 91	776579	10 13 12 16 2 ) 16	11 1 0 0 0 2 0 2	10 0 6 0 2 11 0 5	2 0 8 0 4 10 23 11	12 12 17 17	5 0 7 0 5 20 7 7 5	29 0 1 1 0 0 1 1 1 1 1		10 0 2 4 0 19 0 1 7	17 52 6 36 37 0 0 11	62 62 62 62 62 62 31 62 62	\$ 90 3 5 20 0 3 5 2 5	36 7NW 16 18SW 44 18E 28 31 25SW
YUKON— Dawson ,	64 4	139-20	1200	30 35	30 99 3	2) 19	I 80		`	10	17	1	11		10		0	1	61	9.)	3 1	28 2 N
ALBERTA— Banff Calgary Edmonton Medicine Hat	51 2 53 33	115 34 114 2 115 30 110 37	4542 5389 2158 2161	30 03 30 00 30 05 30 01	30 62 1 30 41 1 30 56 1 30 49 1	29 57 29 47 ( 29 54 29 21	1 05 1 94 1 02 1 28	71 71 72	5	3	6 6 15	11 17 22	1	4151-1	0.217	5 30	11 4 6	1 22 17 13	19 15 3 8	62 62 62 93	4 × 5 3	28.31NW 18.1NW
Saskatchewan— Battleford Moose Jaw — Prince Albert Qu'Appelle Swift Current	52 41 50 21 53 10 50 30 50 20	108 20 105 35 106 0 103 47 107 45	1620 1759) 1432 2115 2439	30 15 30 01 30.02 30 03	30 79 3 30 62 1 30 63 2 30 62 1	23 55 23 48 23 35 29 51	1 24 1 14 1 28 1 11	97 99 79 83	5 5	 8 11 6	12 11 1 3	4	10 8 0	7 2 6 5	17.89	7 0 5 21	11 14 11 25	14 12 20 22	29 14 2 6	93 62 62 93	10-6	 19 4 N 29 30 N W
Manitoba— "Aweine (St. Alban's) Minnedosa Le Pas Winnipeg	49 42 50 15 53 49 49 53	99 33 90 50 101 15 97 7	1180 1609 860 760	28,74 30,05 29-01 30,08	29 32 : 30 70 : 30 70 : 30 75 :	28 20 29 38 29 63 29 44	1.12 1.32 1.07 1.31	97 77 91	4	5 4 6	6 4 15	2114.02	7 7 0	4 1 18	1 6	. 555 %	4 14	32 16 33	33 2 4	93 62 93	10 ×	.: .: .: .: .: .: .: .: .: .: .: .: .: .
ONTARIO— Cochrane Guelph Haileybury Kingston London Atholsey Parry Sound Port Arthur Port Manley Southampton Stonechif Toronte White Raver Woodstock	43 33 47 20 41 13 42 59 41 20 45 26 45 19 45 27 42 40 44 30 44 30 43 40 48 35	78 45 75 42 80 0 80 12 81 15 81 21 78 6 79 24 85 16	505 872 294 635 641 592 656 557 350 1252	30 03 30 05 30 00 24 01 30 02 30 03 30 03 30 04 21 96 22 95	30	15	1 66 1 77 1 48 1 81 1 70 1 57 1 96 1 43	9222 52222 8 8	11811811825541468	11 17 18 12 14 15 10 19 21 3 12 10 18	9 3 0 10 4 3 8 1 5 0 4 19	1 16 8 4 9 4 6 7 1 5	0 3 5 6 20 1 2 1 4 2 1 4 2 1 ·	13 13 13 17 0 14 12 1 13 14 12 1	11 2 2 2 2 3 5 1 13 6	8 11 10 10 10 10 10 10 10 10	6 10 1 5 12 4 30 20 11 11 24 10	9 10 37 6 8 10 36 23 9 2 8 16	9 0 4 1 1 2 4 37 0 7	62 93 93 62 93 93 93 93 62 62 62	7 0 12 0 10 1 10 1 11 1 4 0 15 0 5 6 11 2	23 23NW 34 23W 25 178W 32 31NW 37 20 2181 40 10NW 27 4-15-31
QUEBEC— Father Point. Montreal Quebec Sherbrooke .	48 31 45 30 46 48 45 32	73 35 71 13	187 293	29 97 30 03 30 01 30 04	$30.81 \pm 30.72 \pm$	25, 25	2.56	80 72 80 77	8 6 7 7	14 13 14 11	16 0 0 2	0 11 27	6 4 2 1	1 5 0 18	13 15 1 1 18	25 25 21 10	16 21 37 26	13 14 3 15	3 0 0	93 93 93 93	17 8 13 2 10 0	63 4W 411 54 4 X D 48 4 8 W
NEW BRUNSWICK— Chatham Fredericton St. John	47 3 45 57 45 17	65 29 65 36 66 4	21 164 70	30 03 30 06 30 06	30 80 ( 30 79 ( 30 79 (	28 52 : 28 58 : 28 65 :	2 28 2 21 2 14	78 85 76	b b	7 11 9	::	5 5	.; 1	2	2 7	31 13 17	36 20 10	11 31 27	0 3 4	93 93 93	\$ \$ 16 2	36 4W 53 48W
Nova Scotti— Habfay Sable Island (MStation Sydney  Wolfville Yarmouth	44 39 43 57 46 10 45 7 43 50	68 h 69 10 64 20	25 35	30 06 30 07 30 03 30 05 30 10	30, 68 ; 30, 70 ; 30, 75 ;	21 11 38 36 28 75 1	I 57 I 54 2 10	88 81 80	1-7 / 22-1-	10 11 17 12 10	5 13 2 5	4 1	1125	11 1 1	16 6 12 11	10 15 .0 12	14 10 0 14 3	16 23 32 10 11	2 0 10 0 3	62 93 93 62 62	14 3 22 5 19 2 11 4 15 0	47 4W 64 48W 62 N E 46 8 W 53 4NW
P. E. ISLAND Charlottetown .	46 14	63 - 19	35	30 06	30 76.	29 On	1 70	84	6	10	2	:;	-	1	1%	ï	ō	16	10	62	9.6	31 238
NewPoundland Burin	37 0 19 43 47 35 48 27 47 34	59 10 58 31	27 30 27 21 125	30 00 29 97 29 99 29,90	30 61 3 30 65 3	28 86 28 91	1 75 1 74	72 73	7 9 9	14 : 23 : 28 : 10	2 4 7 5	1 .: 2 I	1 5 5 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 0 5	13 22 15	6 7 5 8	33 25 19 20	0 2 0 4	62 62 62 63		
Bermuda Prospect	32 - 17	64 46	151	30,33	30-69-5	9 90 (	79	82	6	6	3	20	5	5	17	23	12	5	0	ч3	12-1	40 14NW

# FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF JANUARY, 1913

			DIR	ECTIC	O ZO	F WI	ND_F	ROM		
STATION	ź	N.E.	ъj	S.E.	ú	S.W.	.11	N.W.		Total num- ber of Obser- vations
ALBERTA-										
Athabasca Landing Didsbury Endiang	6 2	6	5 1	0	3	2 4	8 5	4 18	()	34 31
Halkirk(Emsburg)	(5	4	1	7	7	11	8	18	0	62
Loveland	0	2 2	0	. 9	2 3	6 8	1 10	29 11	14 15	63 62
Macleod Pakan (Victoria)	4	0	2	. 0	0	0	30	2	24	62
Ranfurly (Waitefield)	10	5	13	14	2	6	13	24	6	93
Chaplin	2	2	0	3	6	2 3	2	20 6	0	31 31
Crescent Lake Estevan	3	1 3	3	4 3	1	6	7	10	i	31
Fort Qu'Appelle	0	· 7	5	. 14	1 6	3 13	24 0	3 19	5 6	62 60
Grenfell (Brownhill)	1	8	4	- 7 6	12	10	7	36	9	93
Larchmount (Glenbryan)	1	4	3	9	()	14	8	22	1	62
Moosomin	0	7	6	5	()	13	7	23	1	62
Onion Lake	4	0	8	0	0	0	10	9	0	31 31
Pense (Gatesgarth)	6	2	1	9) 4	()	1	6	16	0	31
Manitoba—										
Berens River	20	4 29	5 2	5 8	9	13	3	14 28	0	62 93
Hillview	2	15	10	7	1	8	1	49	0	93
Hillview Moose Horn Bay (Aitkensville) Morden	17 18	2 3	3	4 6	5 6	1 3	10	16 11	4	56 62
Oak Bank	4	0	ò	0	6	2	6	10	3	31
Stony Mountain										
Ontario — Agincourt	3	8	4	7	1	35	17	14	1	93
Alton	7 5	0	16	1	11	2 9	55 2	1 16	27	93
Beatrice	5	1	2 2	10	21	6	. 10	12	3	62
Clinton	3	4	3	i i	25	6	14	6	0	62
Cottam	10	2	7	7	23	4		()	0	62
Lindsay	10	8	6	13	222	19	5	6	4	93
North Bruce	11	.5	3	2	56	18	16	9	0	93
Owen Sound										
Point Clark	3	0				6	13			31
Stoney Creek	6	59	9	0	- 4	22	31	12	0	93
Stoney Creek Uplands	11	0	5	2	15	.5 13	23 4	1 7	0	62
Wexford	1	17	4	'	0	10	1	,	•	01
Quebec— Abitibi	17	2	1.4	8	23	6	20	3	0	93
Anticosti W Pt									٠	
Anticosti, Heath Point Bicquet			0		38	20	7	20	1	93
Brome	()	i	8	ĩ	22	8	48	0	5	93
Cape Chatte	2 0	2	10 6	1	1 21	, 15 5	33	2 44	27 7	93
Cap Rouge	6	11	0	0	-21	0	0	14	ó	31
Chicoutimi	0	41	0	ī	0	3	0	37	11	93
Clarke City Manouan Crossing			·							.; .'
White Shore Lake										
New Brunswick –										
Dalhousie	0	0	8	2	0	0	20	0	0	30
Moneton	14	2	1	3 2	3 7	3 20	6	14 22	: 0	31 81
Sussey	1	2	ó	ō	ó	11	1	6	10	31
Nova Scotia—										
Kentville	1	1	2	2	8	8	7	2	0	31
Parrsboro Port Hastings	0	8		6	. 0	111	0	6	0	31
Sable Island, E. Pt						l			1	
Truro	8	1	4	5	20	20	13	20	2	93

## MEAN PROPORTION OF A BIGHT SUNSHINE REGISTER.D IN LACH HOUR OF THE HAVING THE MONTH OF TAXUARY 1913.

Hours Ending STATION. ä 7 a.m. Ξ a m. 6 a m. p 22 11.2.1 Victoria Salmon Arm 0.1 10 19 28 Vancouver ... 20 Agassiz.... Tranquille..... 28 ..4 Kamloops . . . т 47 411 0.1 Harper's Ranch 0.1 0.9 31 38 21 Edmonton. 15 Lethbridge 29 4.5 13 Lacombe 09 14 Medicine Ilat.... Fort Dunvegan ... Fort Vermilion..... Indian Head. ..... 41 06 Moosejaw . . . . . 03 47 40 34 Scott..... 08 24 411 42 47 47 43 15 Rosthern. ПĐ 15 41 43 42 16 .... Brandon ..... 44 41 49 41 Winnipeg ..... 0.1 03 26 338 44 50 45 3/1 24 Haileybury..... 20 33 23 11 .01 Woodstock..... 00 22 19 19 09 Lindsay..... Т 11 (Hi 17 24 05 Barrie..... 05 14 21 26 10 Toronto..... 91 233 ::4 14 .03 Kingston.... 14 54 31 11 Т Ottawa..... 01 28 36 42 44 45 44 34 29 02 Montreal.... Cap Rouge..... 18 .:2 30 24 Quebec.... 08 26 98 29 14 Ste Anne de la Pocatiere... 35 39 37 16 Т Sherbrooke.... 37 38 13 23

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04 20 .34

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Charlottetown.	7	Ē		Ē	Ē,	=======================================
Fredericton	21	ń	-11	£	<i>z</i> .	-
Sherbrooke	9	81		15	-	12
ој эје эди 7, 918 г. 97-ентете	17	25	1	7	77	12
Энцэпд	3	31	Ē	17	Ξ	::
Cap Rouge	4	1 -		13	5	≤
Montreal.						
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nor-241A	ġ	<u>~</u>	-	13	whi	2
Tonusto.		- 2		17	81	Ξ
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Pandeny	20	-	21	í.	27	ê,
Anot-lant I	s	=	2	- 5	ĉi	~
Harley bury	3	3	1	12	- ći	_ <sub>\(\pi\)</sub>
Todawa (	- 5	22	=	7	=======================================	
Brandon.	7.5	ŝ	 T	77	=	2
Rosthern	1 -	$\varepsilon_{\rm i}$		9	ā	2
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Indian Head	25	31	æ.	13	=	2
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Medicine Hat.	23	63		2	5	Ξ
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1 ethbridge.	2	5		7	_	2
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Harper's Rand		61	!	12		
Kamloops.		F)	1	- 2	100	
Summerland.	3	èı		į.	Ċı	-
Tranquille.				72		
Agassiz.	8	Ξ.	1		_	-5
Гапсоилет.			- 1	13	_	<u>-</u>
Salmon Arm.	÷	- 62	1	G	75	
киотэтД .	30	-	- 1	r.	_	12
	legistered duration in hours	ercentage of pos- sible duration	ofference from average	Maximum percent- age in one day	late of maximim	Number of days completely cloud-

### $Thunder\ recorded:$

1.

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3. Shawinigan Falls, Brome, D'Israeli,

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8. New Germany.

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19. New Germany, Halifax, Truro.

20. Paris, Cottam, Brantford, Stoney Creek, Port Stanley, London.

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### Aurora recorded:

30. 31.

1.	
<u>-)</u> .	Winnipeg III, Waseca, Ranfurly II, Campsie IV, Peace River Crossing.
3.	Dunstable. Edmonton IV, Sion IV, Campsie IV.
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### FORECASTS FOR JANUARY 1913

The forecasts issued by 148 office at 11 p.m. each night are posted up to a contellegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1186. The same divided as follows:—

		No		VERIFI	ED.	
$D_1$	strict.	Is-ued	i.	rrtly	No.	l'er- centage
Alberta				17		
Saskatchewan				1.6		×7 *
Manitoba		52	1	14	4	St .
Lake Superior		41.5		17		57. (
Lower Lake Region.		11		15	4	89-1
Georgian Bay .		11	**	17	5	N7 7
Ottawa Valley .		144		21	2	87
Upper St. Lawrence		-4	-	19	2	N7 N
Lower St. Lawrence		114	- 、	12	4	×11 ‡
Gulf		107	50	16	2	500-6
Maritime Provinces West		11	15	1	54	NN 11
Maritime Provinces East .		117		16	•	** 1
Total		1180		189	4+	86.6

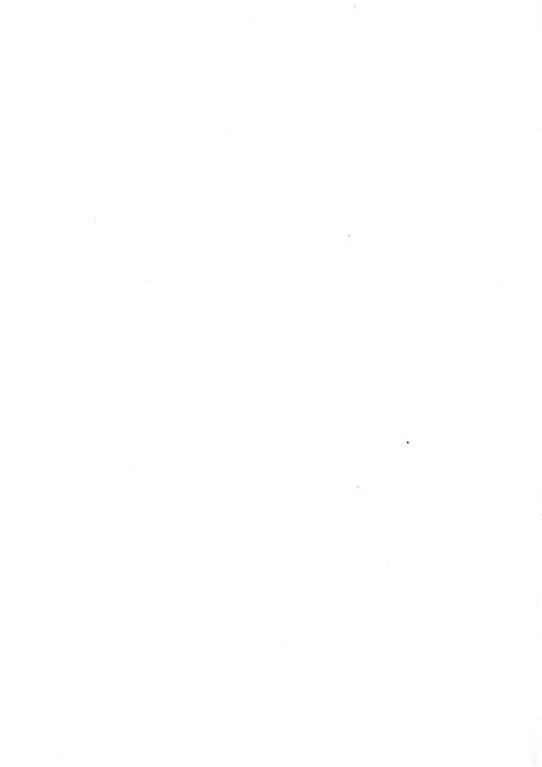
In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto,

Feb. 22nd, 1913.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Meather Review

VOL. XXXVII.

FEBRUARY, 1913

No 2.

### INTRODUCTION

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

### TEMPERATURE

The month was considerably colder than average over the greater part of the Dominion. In British Columbia the mean temperatures ranged from 2 to 11' below average over the mainland and from 1° to 3' over Vancouver Island. In Ontario the negative differences from average ranged from 1° to 8°, the larger differences occurring in the northern districts. In the Abitibi region of Quebec the mean temperature was 9° lower than average and in the Gulf regions from 3° to 6°, but along the middle 8t, Lawrence from 3° to 4°. In the Maritime Provinces also the month was colder than average by from 3° to 5° except in the most southerly districts of Nova Scotia.

In Alberta and Saskatchewan, on the other hand, the mean temperatures were from 3 to 8 higher than average the greatest differences occaring along the North Saskatchewan River. In Manitoba, however, while some stations reported means from I to 3 higher than average, the general difference was negative, ranging from 1 to 4. The high mean temperature of the month in Alberta and Saskatchewan was mainly due to a period of very mild weather which began on the 12th and lasted until the 24th.

### PRECIPITATION.

In British Columbia precipitation was recorded on from five to eleven days and was in all districts much less than average. In the Western Provinces, where precipitation during the month of February is normally light, little difference from average was noted. In Ontario, however, as well as in Quebec, and the Maritime Provinces, there were noteworthy departures from the average. In the Georgian Bay Counties of Ontario, nearly twice the usual amounts were reported, while in the counties bordering on Lakes St. Clair, Eric and Ontario, and in the counties of the interior of the peninsula, precipitation as largely in defect of normal was recorded. In Quebec and New Brunswick, also, there were large deficiencies, but in Nova Scotia, except locally, they were much smaller.

### BRIGHT SUNSHINE.

In the Western Provinces there was a deficiency of bright sunshine for the month of from twenty to fifty hours, an excess over average of from five to ten hours in Ontario, and deficiencies of from three to ten hours in the Maritime Provinces and Quebec. On Vancouver Island the amount was just normal, but in the interior of British Columbia the excess over normal ranged from ten to forty hours.

### ATMOSPHERIC PRESSURE

The mean atmospheric pressure for February was in excess of the average over British Columbia and also very locally in Alberta, but elsewhere in Canada the value was subnormal. From the values at the Telegraph Reporting Stations, it appears that the excess in British Columbia was about 0.1 of an inch, and the negative departures in other districts were generally more than 0.03 of an inch and reached 0.1 of an inch in Nova Scotia.

#### HIGH AREAS

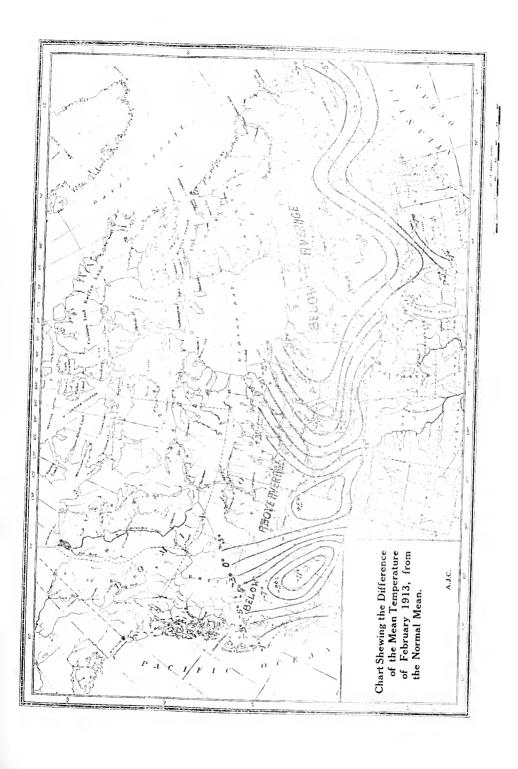
Seven areas of high pressure were charted, all first appearing either in the far northern or north-western portions of the continent.

They were all fairly pronounced and attended by much cold weather. The system which was situated in the Yukon Territory on the 2nd was especially energetic, persistent and widespread, and it did not disappear off the continent until after the middle of the month.

### LOW AREAS.

Eleven areas of low pressure were sufficiently defined to admit of their paths being charted while there were one or two other minor depressions which were not considered.

Five areas first appeared in the northwestern portion of the continent, three in the southwestern portion, two near Southern Florida and one near James Bay. Three areas passed to the northward, four over and four to the southward of the Great Lakes. The systems were not as a rule of any marked intensity and as a consequence the gales which were experienced were neither numerous nor severe.



### WINDS, FEBRUARY, 1913

PROVINCES IND STATIONS	Total	Greatest Militage	Greates	t Miles ge in	1 Hour	Num	her of Day	s of	Comme
The state to be set at the see	Wileage	antenge in 24 hours	Mides	Direction	Date	Gales	Strong   Wind:	Fresh Winds	GENERAL DIRECTION.
ли н Сагма									
Athe Prince Bijert	13.57	3.57						( a. 1	
Victoria	4418	335	-31			2	2	9	. `
Point Garra Vancouver Vancouver	3628	.159	21				4	7	Ь
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1 emonton	3964 1016	248	20	NI, 81.	21.28		2	10	NW
1 2 2 4	fufu	320	22	7.11	1		6	5	2.11
128 (1011) # 15									
Buttleford	5339	435	26	2.17	1		9	13	
Prince All ert Switt Current	1149	300	18	2/11	10			ų.	
Qu'Appelle	72.52	590	50	2.11	7 11		12	12	
MASTIGIA	1								
Le Pes . Winniper	6240 6675	582 187	32	/ W.	11	1	2 7	25 16	N.M.
Ostanio									
Post Arthus	7681	418)	35	11/	11	2	9	13	11
White River Cachinne			20				1 .	5	N,NW
Parry Sound Son-lampton	6216	418	27				(i	22	SW,NW SW
Pelce Island Woodstock	11259 8071	614	50 34	112	23	1	11 16	9 5	sw
Guelph Lotonto	12420	735	39	W. L.	7-100	11	8 .	-6	W
Aspeston Stopechin	7 150 2663	500 254	0 15	11	21	1	13	9 10	NE W
Ottawa									
Q1   B11									
Montreed			32	SII		1	14	5	W
Sherbrooke Quebec	11844	958	51	NE	15-22	11	12	3	SW,W
Enther Point Anticosti	12432	860	55	W.	1	10	12	4	NW,N
Harrington									
NEW BIOLOGIA									
Pt Lacarogram									
Fredericton St John	7313 10524	569 701	37 46	7 W	1	10	13 10	8 8	NW NW, N
Pt Leptemy	15017	918	59	211	1	19	7	î	NW
Nova Scotia									
Yarmouth Wolfville	10920 8418	67.4 663	51 38	" y W.	1	1 -	15	12	NW
Habias	9546	695	41	NE NE NE	19	5 9	10 12	10 5	W NW
Satile Island Clat Point	12715	944	50	NE NE	18	iii ii	12	2	NW
PRINCE EDWARD ISLAND									
Charlottetown	5486	651	. 31	NE	19	2	3	12	NW.NE
· narroguerown	0+50	1131	1 31	. 177	1.7	1		12	IN H.NE

### FREE AIR DATA

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43° 8' N., Long. 80° 47' W.) on February 7th, 1913.

Instrument—Dines Meteorograph. Beginning of Ascent—1 a.m. G.M.T. Barometer—759 mm. Temperature = —12.00 C. Direction of flight at Beginning—East, Fell—275 km. distant S.85 E. Maximum Height 10.6 km. Minimum Temperature —52 0 C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	entigrade degree:
G.L. = 0.3	759	12	.0
0.5	738	13 5	-16.5
1.0	690	-16.5	-19.5
1.5	643	21.0	-22.5
2.0	601	21 0	-25.5
2.15	590	-21 0	-26.0
2.4	570	21 0	-23.0
2.5	561	-21 5	-23.5
3 0	524	24.0	-25.0
3.5	489	25.5	-27.0
4.0	457	29 0	-30.0
4.5	425	33 0	-34.5
5.0	394	-38.0	-38.5
5.5	368	-40	.0
6.0	341	48	.0
6.1	337	-43	. 5
6.5	316	-42	.5
7.0	293	-43	.5
7.5	272	-46	.0
8.0	251	48	5.5
8.5	233	51	.0
9.0	216	—51	.0
9.5	200	-52	0
10.0	185	-51	.5
10.6	169	—51	.0

\*Stations not furnished with Degistering Therm models

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STATION.	Latitude N		Long tude W	Elevation above sea   level, in feet	Mean	Difference from	Yr's Observations	Bighet	Date	Lowest	Date	Mean daily range.	Amount	Luffererce from average.	Heaviest fall and propagation	Days with .01 or mo	No of fair days.		No of thencerstorms	No. of 10gs
BR HSD COLUMBIA+ -												1							į	
S. Lincourer Island Alberm (Beaver Creek) Clayoquot Cloose Coverelan (Toothidem) Namuno Namuno Namores Bay Salt Spring Island Sooke Victoria	49	25 10 17 50 41 24	124 49 125 55 123 42 123 37 124 12 123 20 123 44 123 19	300 27 170 125 130 25	37 0 40 1 36 0 36 9 37 4 36 1 36 4 37 5 38 1	- 0 5 - 0 6 - 0 2 - 0 2 - 3 2	17 13 1 7 12 1 4 3 19	58 0 50 0 51 0 52 6 56 0 49 0 50 0 51 0 50 5	20 20=26 13=15 16 25 21 15 16 23 16	16 0 25 0 23 0 18 5 18 1 22 0 23 0 25 0 27 0	5-7-26 5-26-8-6-6-6-6-6-25-25	20 6 12 2 17 2 15 6 14 0 14 1 11.0 15 3 11 2	2 69 9 70 5 97 1 55 1 77 1 27 1 91 3 29 1 91	-6 13 - 42 - - 2 37 - - - -1 +6	1 36 4 50 2 45 0 79 0 58 1 10 0 91 1 03 0 43	889885868	20 20 19 20 20 23 20 22 20 22 20			3 2 4
X. Vancourer Island Holberg Swanson Bay Trisagle Island Quatsino	50 50 50 50	39 37 52 32	128 18 126 53 129 5 127 40	680	35 5 34 1 37 5 38 7	= + 0.7	1 5 3 17	47 8 44 0 45 5 49 0	20-22 15 13-16	29 1 15 0 27 0 27 0	5 3 4 4-24	8 9 9 4 4 9 11 7	5 88 10 22 3 10 5 31	= 7.4	2 61 2 84 1 15 2 70	12 9 9	16 19 19 17			10
Agasstz Chilliwack Hope I adher New Westminster North Nationies Pemberton Hatchery Ruskin (Savae Falls) Steveston(Garry Point) Vancouver	49 49 49 49 49 19 50 49 49	14 10 23 05 13 12 20 16 21 17	121 31 121 57 121 25 123 4 122 54 122 5 122 3 122 23 122 23 123 17 123 5	52 21 500 330 59 125	34 9 33 5 29 8 35 8 34 7 34 6 27 0 30 8 30 3 36 0	- 2 9 - 4 0 - 1 6 - 3 4 - 2 9 - 8 0 - 2 4	3 13 26 21 5	48 0 48 0 48 0 51 0 46 8 49 0 43 0 41 0 50 0 47 9	18 20 15-17 18 18-21 18-21 17 16	20 0 19 0 9 0 20 0 18 7 18 0 10 0 12 0 21 0 20 7	4 5 5-6 6 8 5-10 6	11 9 12.6 17 2 12.5 12 5 14 4 13 5 13 3 11 7 11 3	5 12 6 46 3 50 1 80 5 39 7 19 2 07 8 25 2 42 4 28	- : 59 -2 63 -1 57 - 0 96 -1 66 -2 50	2 94 1 33 0 55 1 83 2 34 1 13 3 60	6 7 6 5 8 6 4 5 6 10	22 21 22 23 10 22 24 23 22 18			32
Upper Fraser River  Babine Luke Barkeryllo Chileotin (Big Creek) Fort Genuse Fort St. Jinnes (Stuni) Lake) Hydraulic Quesnelle	55 53 51 54 52	35 02 40 28 59	126 26 121 35 123 0 124 12 122 30	4180 3100 2280 1700	11.8 14.7 16.0 12.4 11.5 16.0 15.5	$\begin{array}{c} -4.8 \\ -0.3 \\ -0.3 \\ -1.9 \\ -3.8 \end{array}$	18 18	43 0 39 0 49 0 44 0 43.3 41 0 44.0	14 13 13 15-20 14-16 13-15 16	$\begin{array}{c} -24 & 0 \\ -24 & 0 \\ -20 & 0 \\ -35 & 0 \\ -27 & 5 \\ -33 & 0 \\ -27 & 0 \\ \end{array}$	5 4 7 7 5 5 6	24 2 16.9 25 2 24 6 23 4 19 9 22 2	1 58 1 60 1 40 2 78 0 72 0 88 1 03	-1.79	0 40 1 15 2 0 24 0 40	7 6 7 7 5 5 5	21 21			
Okanagaa Valley Holley (Nickel Plate) Keremeos	49 49 49	35 15 29 29 36	120 10 119 29 119 35 120 29 119 40 119 15	1771 1200 1650 1100 1582	21 3 15 4 23 3 18 6 23 9 16 1 21 0 15 4	-7 ( -7 1 -7 1	6 18	42 0 44 0 42 0 45 9 42 0	1-17 16 17-18 17 16-17 15-17	$\begin{array}{c} -8.0 \\ -15.0 \\ -15.0 \\ -16.0 \\ -16.0 \\ -27.0 \\ -27.0 \\ -27.0 \end{array}$	5-7 6 11 6 9-11 6	18 5 18-7 14 3 16 5 14 8 25 6 14 3 18 2	0,40 0 60 0,27 1 15 0 42 0 45	+0 00	0 27 0 20 0 50	3 3 2 4 5 3	25 26 24 23 25			
West Kootenay	.,0	17	1113 (8	1032	10 1		- 20	40.0	10		11	10 2	1 02	-0.1	1 100					
Crawford Bay Creston Grand Forks Greenwood Howser . Kaslo . Nekusp . Needles . Nelson, Rossland	49 49 49 49 49	45 2 5 52 29 5	116 45 118 27 118 49 117 0 117 21 117 48	1752 1760 3400	21.6 18.2 16.5 15.4 18.0 20.6 19.1 25.5 23.2 19.9		3 1 2 1 1 4 1 4 1 1 2 9	42 0 42 0 41 0 42 0 41 0 39 0 53 0	17-18 17 17 18 20 17 15 4 18 16	$\begin{array}{c} -2.0 \\ -12.0 \\ -15.0 \\ -19.0 \\ -13.0 \\ -3.0 \\ -5.0 \\ -11.0 \\ 0.0 \\ 5\end{array}$	5 4-5 6 5-6 8-9 7-8 7-8 8	16 1 20 9 18.3 25 5 18 7 15.0 15 2 28 0 15 8 11 6	2 41 0.42 0 13 		0.40 0.39 0.11 0.25 0.20 0.57 0.10 6   0.27 0.13	10	25 25 25 26 22 22 24 24 25 23	::	1	1
East Kootenay														ī						
Akamina Cranbrook Toliseco Plains (Elko) Wilmer	49 49 49 50	10 30 1 34	114 20 115 50 115 5 116 14	4150 2684	13, 2 18, 2 14, 8	-5.	18		15 16 16	$-rac{24}{-17} rac{0}{6} \\ -15 rac{0}{0}$	5 5 5	24 8 17.1 18.6	0.04 0.21 0.35	-1.0	0.04 4   0.11 0.25		27 3 25 3 25	1		
Thompson River Asheroft					19 8		1		, ~	10.0		14.0			0.00					
Asherott Enderby Harper's Ranch Kamloops Nicola Lake Pemberton Meadows Salmon Arm Salmon Arm (Exp. Farm) Tappen Tranquille	50 50 50 50	41 9 42	119 7 120 29 120 39 119 35	1180 1245 2120 1152	19 8 16.5 17.3 20 7 23 6 16 8 15 5 22 2 16 2	- 6 -10 - 3	21	47.0 42.0 3 50.0 44.0 41.0 41.0 47.0	17 18 16 18-21 17 17-18 17 15	$\begin{array}{c} -16 & 0 \\ -27 & 0 \\ \end{array}$ $\begin{array}{c} -18 & 8 \\ -21 & 0 \\ -10 & 0 \\ -18 & 0 \\ -16 & 0 \\ -24 & 0 \\ \end{array}$	4-6 5 6 5-6 6 5 6	24.1 17.0 14.6 21.9 18.4 22.1 20.1	0 47 1 38 1 04 1 146 1 94 1 13 0 80 0 91 1 45	-0.3   +0.2   +0.7   -			1 24 5 23 1 24 2 26 5 23 4 24 3 25 6 22	::		
North Columbia River Glacier Golden Invermere Revelstoke	51 51 51	14	117 29 118 6 116 55	4072 1476 2550	11 7 12 1 11.3 19 6	$-\frac{6}{-\frac{4}{3}}$		39.0	15-16 15-15 17	-13 0 -32 0 -30 0 -14 0	5 7 8 8	13 4 24 2 25 4 19 4	5.25 0 00 0 08 2.91	3 -	0.00		7 2: 0 28 2 26 0 18			

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMENION OF CASADA, PEBRUARY, 191

Stations not furnished with Registering Therma meters

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							11.50	TLAIL	l.F			1:1:	PHAT	los	£			е.	
STATION.	Latitude N	Lorgitude W	Elevation above sen level, in feet.	Meat.	Difference from average	A t s collisera attous	Highest	Date	Lower	Pate	Mean duly range	Amount	Difference from	Bearing fall in merth	Days with 0 Lor more	No of fair days	No of aurorass	No of thunderstorms	No of form
BRITISH COLUMBIA - Con																	_	_	
North Coast	0 /																		
Bella Coola Khtada River Prince Rupert Stewart Terrace		120 54 130 18 150 1	150 170 215	31 3 37 4 26 0 29 1	-14 = =	4	47 0 52 0 37 0 41 0	21 17-19 19	22 0 7 0 9 0	4 21 8	1.7	- 1 - 1 - 1 - 26	0 29 — —	1,03 0.92 1.02 9.50	8 14 7	20 14 21 22			
Queen Charlotte Islands																			
Ikeda Bay Massett Yukon Boundary	52 17 53 58	131 7 132 9	3 30	39 6 39 5	+ 2 3	16	50 tr	11-12	26 0 24 0	1.1	11 1		1.82	1 47	11	17			1
Atlin	59 - 55	133-38	2240	14 1		7	.50	1	-180		17-1	1.12		0.22	6	22			
YUKON—	60 11	134-34	2171	10.7			40 11	1n	1	-	21.4			0.45	4	24			
Dawson.		139 29	1200	10 1			917 11		- /1		-1			. 40	1	- 1			
MACKENZIE - Ft Resolution	td =0	113 0	800																
Alberta —	01 "	115 0	800																
N. Saskatchewan River																			
Campsie Daysland Edmonton Edming Git Edge Halkirk (Emsburg) Loveland Pakan (Victoria) Ramfurly (Waitefield) Sion Wetaskiwin	55 52 53 33 52 0 52 59 52 17 52 30 54 0 53 29 53 54	114 42 112 17 113 30 112 0 110 43 111 59 112 31 111 38 114 15 113 23	2158 2795 - 2000 2480	11 4 10 0 14 6 7 9 9 6 10 6 5 3 11 4 14 2	+ 4 4	1 0 25 3 3	49 1 47 0 50 2 41 0 45 0 45 0 42 1 62 0 50 0	15 15 15 15 15 15 15 15 16	$\begin{array}{c} -45 \text{ o} \\ -15 \text{ o} \\ -35 \text{ o} \\ -35 \text{ o} \\ -30 \text{ o} \end{array}$ $\begin{array}{c} -27 \text{ o} \\ -32 \text{ o} \end{array}$ $\begin{array}{c} -27 \text{ o} \\ -32 \text{ o} \end{array}$ $\begin{array}{c} -40 \text{ d} \\ -21 \text{ o} \end{array}$	3-25 3-25 3-25 3	24 X X X X X X X X X X X X X X X X X X X	3 4 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5	~0_11 -0_11 -0_16	0 13 0 10 0 21 0 20 0 23 0 30 0 45 0 15 0 20	6 8 12 4 5 6	20 20 16 24 23 22 16 17 23	1 3		1
The Red Deer River																			
Alir Delhu Didsbury Ilarmattan Hillsdown Lacombe - Ex. Farm - Oyen. Red - eer Threehills Crock	52 14 52 58 52 16	113 19 112 25 114 8 114 23 113 29 113 44 113 49 113 11	3500 2806 2783	19 0 10 8 14 0 12 1	+ 2 8 + 2 0 	11 0 10 5	57 0 52 0 50 0 50 0 55 6	15 16 15 15 15	= 0.0 ±25.0 30.0 ±25.0 ±28.5	27 25 25 20	21 1 26 6 19 4 -4 9		+0 05	0 20 0 30 0 50 0 40	3 9 9	23 24 19 10 15			
The Bow River																			
Brooks	50 34 51 2 49 12	111 54 114 2 113 18	3389	17.9	÷ 4 1	27	57 0	15	15.0	4	19.9		±0 nt	6122	i 1	i7			
Gleichen High River Lawrence (Parkland) Lethbridge (Exp. Farm.). Macleod. Macleod. Medicine Hnt Pinchar Creek. Strathmore	49 42 49 43 49 44 50 1 4) 0	112 54 113 53 113 26 112 51 112 51 113 24 110 37 114 4	2952 3394 2961 3128 2161 3750	11 7 14 3 14 9 15 5 14 9	- 3 0 + 2 2	10 7 6 125	52 0 55 0 57 8 46 5 51 0	15 15 16 16 16	-26 0 -23 0 -27 0 -25 0 -23 0	4 20 4 4	20 0 -8 7 22 0 18 4 21 5	0 m 0 m 0 80 1 11	+0.4*	0 10 0 05 0 20 0 30	77.6.9	21 21 22 19			
Sundial Rocky Mountains	50 6	112 34		14.7		2	52.5	1ñ	-21.5										
Banff	51 10 49 40	115 34 114 30	4542 4225	12-1	- i ?	16	41 1	13	- 34 0	4	23 2	15	-0 36	0.19	5				
Athabasca River																			
Athabasca Lunding Lunnford Pembina	54 43 54 33 54 12	113 17 114 19 114 0	1650	7 6 10 1		4	45 0 51 0	13 13	-11 11		24 4 27 6	0.40		0 15 0 25	3 2	25 26			
Peace River Beaver Lodge	55 211	119 21																	
Dunvegan Fort Vermilion Fort Vermilion (2) Peace River Crossing Spirit River	55 56 58 27 56 15 85 40	118 35 116 3 117 15 118 47	1305	= 2.5 = 2.9	· <u>-</u>	. s	4 9 36 b	21 20-21	= 34 0 -41 0	11	25 3	0 38 1 40		H 30 H 33	3 3	25 25	4		

\*Stations not furnished with Registering Thermometers.

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STATION	Latitude N.	Longitude W.	Elevation above sea level, in feet,	Mean.	Difference from average.	Yr's observations.	Bighest.	Date.	Lowest.	Date.	Mean daily range.	Amcunt.	Difference from average.	Heaviert fall in month.	Days with .01 or more	No. of fair days	No. of Auroras.	No. of thunderstorms	No of fores
SASKATCHEWAN-											- 11								
$Qu'Appelle\ River$	۰,	0 /																	
Brownfull (Grenleff P () ) Brownlee	$\begin{array}{ccc} 50 & 23 \\ 50 & 45 \end{array}$	102 - 53 106 - 0	1957	0.5	- 1 6	13	38 0	16	-32 (	3-25	22.7	1 10	+ 0.78	0 30	5	23 	::		2
Buchanan Crescent Lake Estevan	50 59 49 12	102 25 ±	1658 1858	- 3 1 6 3 1 9	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15 9	36 7 38 0	17 16	$-39 0 \\ -26 0$	2-3	24 4 16 4	1 79	$+\frac{i}{1}$ 28	1 00	8	20		::	`ź
Fort Qa'Appelle Hubbard ,Dramague) Humboldt	51 5 52 12	103 24 105 9		$-\frac{1}{3}\frac{9}{7}$	_	1	42 9 36 0	16 17	-399 - 380	$\frac{26}{26}$	24 9 23 7	0 67 1 00	_	0 23 0 40	6	$\frac{22}{24}$			
Imperial Indian Head -	52 12 51 22 50 28	105 23 103 40	1924	1 1 1 5	- + 0 3	2 23	39 0 40 0	16 16	$-33 \ 0 \\ -35 \ 0$	25 26	19 2 25 4	1 10 1 30	+0 88	0 60 0 70	3 5	25 23		::	
Kamsack Manor	49 43	102 2	2064	- 0 4 9 2	_	23	30-0	16-22	- 38 0	11	20 3	1 60	-	0.60	6	23 22		::	:: i
Moose Jaw Moosemin Muenster (St. Peter's Mon-	50 21 50 0 52 0	105 35 101 37 105 0	1759 1884 1870	-11	+ 4 6 + 2 2	IS	43 0 33 0	15~17	-24 0 -40 0	3 26	21 0	0.40	-0 44 -0 03		8	20			
Pilger Pense (Clatesgarth )	52 25 50 20	105 9 105 0	1879 2115	$-\begin{array}{cccccccccccccccccccccccccccccccccccc$	+ 2 3	2 15	34 0 41 0	16 16	-47 0 -30 0	26 28	23 1 19 6	0 69 1 47 0 20	 _0 14	1 00 0 08	3 3 8	25	1::		
Qu'Appelle Quill Lake Regina	50 30 52 4 50 27 51 5	104 47 104 14 104 37	2115 1600 1885	4 0	+ 2 4 + 4 7	28	41 0 38 0	16 16	-29 0 -34 0	26 26	18 7	0 11	±0 19 ±0 21		6	20 22	1	::	
Strassburg . Yarbo (Fairfield)	50 39	101 37 101 57 102 4	10	-17		-1	33.0	17	-38 0	12	21.5	· -			_	_			 
Yellow Grass Yorkton	$\frac{49}{51}$ $\frac{49}{14}$	104 9 102 29		3 0 1 9		4	38 0 32 0	15-16 14-27	-41.0 $-39.0$	13 12	21 9 25 6	_	_	Ξ	Ξ	Ξ			
S. Saskatchewan River																			
Chaplin East End (Divide) . Kelvinhurst (Nashlyn)	50 26 49 31 51 46	108 49 108 49 108 10	2202	6 3 9 8 9 0	$^{+50}$	27 6 3	$\begin{array}{c} 42 & 0 \\ 43 & 2 \\ 48 & 5 \end{array}$	15-16 17 17	$-31 0 \\ -24 2 \\ -27 0$	2 4 3-4	20 8 16 4 20 8	0 06 0 38 0 10	-0 41 -	0.10	5 2	$^{24}_{23}_{26}$	::		6
Larchmount (Glenbryson) Oliver	49 21	108 10 109 29 107 27 108 57		8.6	_	2	49 0	15	-27 0 -29 0	4	26 8	0 10	_	$0.07 \\ 0.05$	1	27			
Rathmullen Swift Current	51 20 50 20	108 57 107 45	2439	3 7 10 6	+1 9	$\frac{3}{27}$	38 5 46 0	16 16	-39 0 -27 0	3	$\frac{21}{17} \frac{1}{5}$	0 45 0 31	-0 34	0.35	3	25 19	2		i.
$N_{\rm e}$ Saskatchewan River																			
Battleford . Lloydminster	52 41 53 18 52 5	108 20 110 0	1620	8.6	+ 8.0	29	46 0	1.7	$-32 \ 0$	26	20 2	0.20	-0 23		. 2	26		::	
Luseland Omon Lake Prince (Meota)	52 5 53 52 51 6	109 34 109 59 108 20	1700	6 0 6 2 1 3	+ 5 5	6	41 5 37 9 43 0	15 14 16	-34 0 -40 0 - 45 0	26 26	19 0 25 3 21 9	0 55	=	0 30	4	24			5
St Walburg Scott (Ex. Farm)	51 59	109-30	******	6 4 3 3	_	1 2	41 0 38 8	15 15	-35 0 -35 4	26 26 3	20.9	0 42 0 75	Ξ	0.20	7 4 7	21 24		1::	
Waseca The Saskatchewan Forks	53 e	109-29		5 0	-	ti	39 0	15	33 (1	3	18-3	0 60		0.20	7	21	. 1		
Chagoness (Star City)	52 32 52 54	104 13 106 20																١	
Duck Lake Melfort	-52 - 47	104 30		0 2 2 2	$^{+\ 5\ 5}_{+\ 2\ 6}$	4	38 0	13	-32 0	26	24 1	0.15	- 0 26	0 05	3	25	i		::
Prince Albert Rosthern Saskatoon	53 <b>1</b> 0 52 40 52 <b>1</b> 5	106 0 108 20 106 30	1432 1657 1571	0 h 1 8	+ 2 6	28 3 13	40 0 35 0 38 5	13-16 17	$-38 \ 5$ $-34 \ 0$ $-35 \ 0$	26 26	22 4 19 3 20 0	0 80 0 50 1 60	+0 07	0.95	4 3 5	24 25 23			1::
Lower Saskatchewan River		1					50.0		-33 0	2	200	1 40	7000	. 10					
Cumberland House Lost River	53 - 56 53 - 17	102 16 104 21																	
Manitoba—																			
Qu'Appelle and Assini- boine Rivers																			
Aweme (St. Albans) Boissevain	19 42 50 25	99 35 101 1	1180 1703	ft fi	0 4	29	33 0	13	-33 0	26	22 0	0.90	+0 09	0 35	11	17	3	1::	
Brandon . Carberty Carman	50 25 19 51 49 52 19 31	99 57 99 20 98 0	1176 1258 872	- 2 6		25	32 0	13	-38 6	26	21 9	0 60	-0 26	. 0 30		25			::
Cypress River Hillyrew	49 33 49 55	59 3 100 33	1232 1400	0.5	+ 2 8	27 29	31.0	. 12	-38 0	11	20 3	0 90	+0.03	. ò 40	3	25	::		1:
Minnedosa Ninette	50 15 49 24	99 50	1699 1363	- 1 4 1 6	$^{+\ 2\ 8}_{-\ 2\ 0}$	29 2 3	31 0 31 5 31 0	13 13	-34 4 -31 0	12-26 26 25	19 4 22 2 20 7	0 88	+0 03	_	3 7	21	::	::	2
Ninga Pietson Pipestone	49 14 49 11 49 34	101 5	1649 1531 1400	0.1		3	34 0	14-16	-27 0	25	20 7			<del>-</del>		:::	::		
Portage la Pravine Portage la Prairie (2)	49 57	98 17 98 17	1400	- 2.8	- 4 5	24	31 0	. 14	-33 0	25-26	21 7	1 10	+0 45	0 60	4	24			:-
Russell Souris Treherne	50 59 49 36		1212	7 5 0 9		19	33 0	15	-42 0 -27 0	12	24 2	1 01		0 72	3	25	::		··· 2
Virden	49 51		1444	0.9	+10	18	34 0	13	—27 0 	4-26	20.9	0 85	-0 03	0 23	12	16	:		
The Red River Almastppi Morden	‡9 14 49 11		0.50	0 9	- 17	11	33 0 39 0	13 17	-28 0 -27 0	4-26 26	18 4	1 10	+0.29	0 70	4 3	24 25			2
Oak Bunk. Stony Mountain	49 57 50 40	96 42	978 800 803	$-\frac{1}{2}\frac{6}{7}$	- 7 2 - 7 2 - 0 2	16	28 3 28 0	17 18 19	-32 5	26 27 26	19 3 18 6 25 3	1 10 1 40 1 00 0 95	-146 + 0.08	0.50	4	24 24			
Winnipog .	49 53		760	- 0.9	— 0 ž	32 39	28 3	18	-39 0 -27 8	26	18 9	0 61	-0.08	0 18	14	14	1	1	1

\*Stations and firmed of with Registering I leaves in the

									E1 - 1			_	1	LA	1105				
STATION		Latitude N	I orgitade W	Lievation above sen level, in feet	Men	Defretence in	Mr. destrate at	Hisbert	Pate	Lower	13515	West day turpe	Vi. 11.	Difference from	Bearing fall at	Dave with Office more	An of thir days	So of automs	No of thunderstorms No of fogs.
Manitoba- Continued				_												-			-
Dauphin Lake and Reco Dauphin. Moose Horn Bay) Artkens- ville) Berens River	, s			957 71c	- 7 : - 7 :	_			;		-				1 .0				
Lake Winnipegosis Le Pas Swan River	:	- 40	: 15	1112	ā =										0.10	-			
ONTABIO-																			
The Lake Superior Districts	5																		
Rainy River Kenora	4	1.	32	1102	- 4.2									1 _1			2		
Thunder Bay Kakabeka Falls Port Arthur Schreiber	15	- <u>-</u> -	5 - 2n 12 5 - 15	912 644 11	- 1 s	= 4 1		- `		Ξ.	4.27						-		
Algoma Bruce Mines Copper Cluff Porcupine Providence Bny Timmins Sandy Falls White River	10	15 40 55	\$1.55 \$6.59 \$2.14 \$5.16	595 1252	- 5 5 - 5 5 - 6 1 - 6 1 - 5 7	- :: \	15   		1 (-2) 1 (-2) 2 (-2) 2 (-2)				1.		0 \$0 1 0 25		:		
Nipissing Cochrane Haileybury Montreal River	47 47 47	25	81 0 79 39 79 29	646 657	1 4 - I 1		18	27.5	11	-25 Z	10 -1 1 -14 -15		,	<u>. 56</u>	. 10	1.5	11		
Jpper Ottawa River Rutherglen (Lake Tubn) Stonechff (Ruckliffe	4h	15 9	14 4×	577	5.5	2.5				_ ,_	25 24			-1 .4		,	-		
Jpper St. Lawrence and Lower Ottawa Rivers Almonte Bloomfield . Hillier	45	1. 5.	76 13 77 21	390 260	lo 1 lo 5		i	ļ	-1	-1				1.5					
Kingston Montague North Gower Ottawa Renfrew	44 45 45 45	13 56 26 26	76, 29 75, 57 75, 43 75, 42 76, 89	285 294 416	15 2 13 3 11 6 7 7		20		1 - 21	_}					. 71		11 21		
Georgian Bay Counties Barrie Bestrice Coldwater Collingwood	44 45 14 44	23	79-41 79-20 79-40 80-2	839 800 600	10 0   12 5	= 1 1	37 24	į.	Ži.					11.98			11		į
Gravenhurst Huntsville 'Midland Markdale	14 15 14	31 54 19 44	79 20 79 5 79 53	750	10 2 10 7 17 6	- 5 4 - -	42	411	12=1	<u> </u>					1 10 	-	14		
Orillia Owen Sound	44 14	37 34	79 24 80 55	775 597	11-6	- 4 1	21	i ı	_!	-2.				- 0.72		`			
Parry Sound Ronville Shelburne Uplands .	14 15 45 14 15	15 15 -5 48	79 24 80 55 80 0 75 57 80 47 79 25	635 1008	13 6	- 3 1 - 5 4	37 31 26	39 11 5 38 1	1	-2) -35 -1	i j		,	10	1 5 1 1 5 5 1 5 5 1 1		14		
ake Huron Counties Birnam Clinton Godetich Lucknow North Brace Point Clark Sarnia	13 13 13 14 14 14	2 45 56 23 59 30	\$1.55 \$1.37 81.41 \$1.30 \$1.25 \$1.44 \$2.24 \$1.21	6HI) 90K 545 586	1.6 7 17 6 18 4 15 9 16 1	- 0 6 1 0 3 7 - 2 9 - 1 8	31   10 22 25 25	51 2 47 0 49 5 46 0 45 0	2 2 11	-: 1		:			770 S A 4	1 / 5 / 10 / 16	15 15 16 17		
Southampton	44	30	\$1.21	656	17 (	2.2		45.5	2.0	-11-1	. 1			- 12	$r_{i^+})$				
akes St. Clair & Erie, Ningara Peninsula Chatham Cottam. Grimaby Peles Island Port Baurell Port Daver Port Stanley, St. Cathorines Stoney Creek	43 41 42 42	2 : 1 : 5 : 1 : 5 : 1 : 5 : 1 : 1 : 1 : 1	\$2 12 \$2 45 \$2 45 \$2 36 \$2 36 \$3 55 \$0 18 \$1 12 79 45 \$2 24	595 606 585 592 635 592 347 292	22 1 20 1 22 1 20 6 19 9 18 6 21 1 21 6 21 7	- 1 1 4 4 - 5 1 - 4 0 - 0 1	175 4 4 4 5 X X X X X	55 55 55 42 5 47 47 47 5 2	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	- 1 1			10 10 10 10 T	1 47 1 28	- 42 - 65 - 65 - 65 - 65 - 65 - 65 - 65 - 65	12 1			
Wallaceburg Weiland . Windham Centre Windsor	42	59 20	\$2 24 79 17 83 4	577 F?5	21 7 21 4	- 1 0	7 26	52 n	1		+ 15		. `		0 11	5			

\* Stations not furnished with Registering Thermometers

				-			Тем	PERATU	II.			Par	CIPIT VI	ION	Te.			ď	
STATION	Latitude N.	Longitude W.	Elevation above sea level in feet.	Mean.	Difference from average.	Yr's Observations	Illishest	Date.	Lowest.	Date	Mean darly range.	Amount	Difference from Average.	Heavest fall in month.	Days with 01 or more.	No. of fair days.	No. of auroras.	No of thunderstorms.	No. of logs
ONTERIO—Continued— West-Central Counties																			
Alton. Brantford Elors Guelph Listowel. London Paris Stratford Woodstock	0 / 13 51 10 10 143 441 443 33 42 59 43 12 13 23 43 8	80 21 80 24 80 16 81 13	1250 750 1274 1050 849 1141 980	19 1 15 2 15 4 16 6 14 9 21 3	- 1 4 - 3 2 - 0 4 - 2 3 - 1 0 - 11 8 - 4 9	23 16 25 13 26 24	55 0 47 0 44 0 43 0 53 0 52 0	2.1 19-20 19-20 18-20 18 19-19	$\begin{array}{c} -1.0 \\ -11.0 \\ -5.0 \\ -6.0 \\ -2.6 \\ -2.6 \\ -4.0 \\ -3.5 \end{array}$	9 10 10 22 5 10	16 8 14 6 15 2 15 9 16 4 15 9	0 89 1 36 1 48 1 48 4 08 1 09	-0 03 -1 11 2 11 +0 01 1 41 -1 34	0 52 0 25 0 40 0 92 0 38	6 9 12 5 15 9	22 19 16 23 13 19		1	
Lake Ontario Counties																			
Agmenut	43 47 13 57 43 16 43 53 13 40 13 49 14 5 43 44	78 - 52 79 - 21	590 886 303 531 350 886 555	17, 7 13, 5 17, 1 20, 4 21, 0 13, 6 15, 8	+16	18 9 73 8 9 1	53 0 44 0 50 0 53 2 51 0 44 0 49 0	20 20 21 20 20 20 20	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	10 -11 -11 -10 -10 -10 -24	14 6 16 0 18 0 15 3 14 9 13 4 15 1	0 78 1 25 — 1 14 — 1 26 0 50	-2 45 -0 74 -1 18 - - -	0 34 0 40 	10 8 - 12 - 8 3	18 20  16 	.: 1		i
East-Central Counties																		1	
Buncroft Habburton Kunto-sant Lankenebl, Lundsay Markoe Norwood Peterlono Ursa	45 1 45 1 44 45 14 25 44 20 44 30 44 17 44 54	77 50 8 25 78 45 77 29 78 18 78 18	1050 120 850 8,2 575 722	7 9 10 0 7 0 14 1 11 8 12 6 13 6	- 3 6 - 3 9 - 3 5 - 2 1 - 0 3	22 25 13 33 9 1 44	45 0 42 0 46 0 42 5 48 0 42 0 47 0	20 20 20 20 20 20 20 20	$\begin{array}{c} -27 & 0 \\ -31 & 0 \\ -38 & 0 \\ -16 & 5 \\ -15 & 0 \\ -15 & 0 \\ -17 & 0 \\ \end{array}$	9 10 9 10 10 9 10	20 2 26 0 26 7 17 8 15 0 18 7 18 0	2 95 1 02 1 33 0 90 0 70	+0.78 -1.90 -1.90	0 50 0 68 0 40 0 25 0 30	13 7 12 8 5	21 16 20 23			
Quebec-																-			
Middle St. Lawrence																			
Brome Cap Rouge D'Israeli Montreali Quebec Ste, Anno de Bellevue Slawingan l'alls Sherbrooke .	15 40 46 46 45 55 45 30 46 48 45 27 46 34 45 32	72 36 71 18 71 21 73 35 71 13 73 50 72 40 72 5	578 576 187 276 620	10 6 4 9 12 3 8 0 30 9 - 0 3	- 2.3 - 3.8 - 3.8	38 2 38 38 4 8	46 0 41 0 41 0 39 6 44 0 25 0	20 1 20 1 20 28	-27 0 -19 9 -11 4 -17 4 -11 0 -23 0	10 6 7 16 7-13 16 13	16 2 19 9 16 7 18 5 13 6 23 5	1 10 4 23 2 26 2 87 0 86 2 00	-0 83 -0 97 -0 19	0 30 1 00 0 49 0 67 0 20 0 90	17 12 8 7	$\frac{20}{21}$	1		i i
Lower St. Lawrence & Gulf																			
*Antreosti, E. Pr. Antreosti, S. W. Pr. Antreosti, W. Pr. Birquet Cape Chatte Cape Magdalen Enther Point Ste Anne de la Pocitiere	49 6 49 52 18 25 19 6 49 16 45 31 47 22	61 42 64 32 68 53 66 45 65 20 68 19 70 2	30 30 03 20 65	8 1 6 6 7 0 3 5 6 6 8 3	- 3 6 - 4 8 - 8 5 - 6 3 - 2 5	28 32 30 24 28 35 1	34 6 31 0 30 0 33.0 41 0 42 0	1 1 1 1 1 1 1 1 1	$\begin{array}{c} -20\ 0 \\ -16\ 0 \\ -15\ 0 \\ -15\ 0 \\ -15\ 0 \\ -14\ 0 \\ -19\ 0 \\ \end{array}$	6 7-15 7-9 6-7 7 24		0 60 3 03 1 95 1 70 4 00 1 43 2 45	-1 91 +1 91 -0 90	0 34 0 60 0 60 0 60 0 50 0 66 0 80	2 11 5 5 15 8 14	17 23 23 13 20			
Lake St. John Chicontinu	4. 07					0.4													
Chicoutini (2) Lake Edward La Turtue Mistussini Roberval	45 25 47 39 47 27 45 54 45 31	71 5 72 15 72 48 72 15 72 13	150 1333 520 360 552	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	-	34 4 1	43 0 30 8 49 0	1 20 i	-40 0 -40 0 -11 0 -41 0	7 6 12 7	23 0 28 9 28 1	0 62 0 35 1 15 0 32	-1 02 - - - - -	0 30 0 30 0 60 0 10		25			4
The Northwestern Districts																			
Abitibi Manouan Crossing Weymontachinguo (Dam. A) White Shore Lake	48 33 47 54 48 12	79 22 73 50 75 43		- 6 4 	- 9 0 -	17	22 0 23 0	26  20	-40 0 -45 0	9	26.1 30.5	1 90  0 45	+0 59	0 80  0 25					
The North Shore																			
Clarke City New Brenswick—	50 10	66 25 ,										1							
Chatham Daihousse Friederiction Moneton Point Leprenux St. John St. Stephen Sussax Williamsburg	47 3 45 4 15 57 46 9 45 4 45 17 45 11 45 38	65 29 66 22 66 36, 64 45 66 28 66 4 67 16 65 38	21 39 164 50 30 70 35 96	12.8	- 3 2 - 4 4 - 1 3 - 4 1 - 2 7 - 3 6 - 3 7 - 2 2	35 40 16 16	50 0 35 0 37 5 50 0 42 0 46 2 46 0 52 0	1 31 31 21 21 21 21 1	-16 0 -23 0 -20 0 -15 0 -7 0 -10 7 -20 2 -25 0 -19 0	25 25	20 9 17 5 19 8 24 0 15 6 21 4 21 9 18 6	2 35 1 85 2 87 1 40 3 24 2 23 2 60 3 20	- 0 44 -0 98 -1 08 -1 38 -0 80 -0 58 -0 68 -1 12	0 48 1 20 0 60 0 50 0 80 0 71 0 48 0 80 0 30	12 5 7 11 7	24 16 23 21 17 21 21 21		1 3	3

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, FEBRUARY, 1913.

\*Stations not furnished with Registering Thermometers

	_						T F. M F	FRATU	RI:			Phi	(PITAT	ION	more	-			_
STATION	Latitude	Longitude	Elevation above sea level, in feet	Menn	Difference from average.	Yr's Observations	Підьен	Date	Lowest	Pate	Mean darly range	Amount	Difference from average	Heavest fall in month	Days with .01 or me	No of fair days	No. of Auroras	No of thunderstorms	No of logs
NOVA SCOTIA-	۰,	٠,																	
Advocate. Antigonish. Halifax Kentville. Merigonish New Germany. Parrsboro'	45 38 44 39 45 3	61 59 63 36	50 88 40	18 5 17 2 19 6 15 5 14 4 18 5	- 4 3 3		40 0 55 0 49 5 49 0 45 3 46 0	2 - 4 $21$ $21$ $21$ $21$ $21$ $21 - 25$	$\begin{array}{c} -15 & 0 \\ -24 & 0 \\ -14 & 2 \\ -9 & 0 \\ -18 & 0 \\ -15 & 0 \end{array}$	13	16 1 24 4 15 2 16 6 16 5 19 0	3 29 1 85 1 93 2 84	23 	0 73 0 42 0 40 0 80	18 9 11 5	13 19 17 23		1	1
Port Hastings *Sable Island, E. Pt Sable Island (Main Station) Sydney Truro *Whitehend, Windsor Wolfville Yarmouth	45 39 43 58 43 57 46 10 45 22 45 15 44 59 45 7 43 50	59 46 60 6 60 10 63 18 61 8 64 6 64 20	45 25 25 35 77 20 90	26 7 17 4 14 8 20 3 19 5 18 3 25 1	$\begin{array}{r} -4.7 \\ -1.9 \\ -4.4 \\ -5.0 \\ -2.9 \\ -0.2 \\ -3.1 \\ -0.8 \end{array}$	22 23 39 39 30 10 12 32	35 0 49 0 59 0 51 6 43 0 53 0 52 4 48 0	1 1 1 1 1	$\begin{array}{c} -13 & 0 \\ 5 & 0 \\ -11 & 0 \\ -28 & 3 \\ -4 & 0 \\ -8 & 5 \\ -5 & 1 \\ 1 & 8 \end{array}$	7 10 7	10 2 13 5 17 6 22 2 - 14 6 15 5 13 3	2 00 4 89 4 50 3 22 10 71 2 09 2 33 3 97	$\begin{array}{c} +0.24 \\ +0.05 \\ -0.63 \\ +6.16 \\ -1.64 \\ -2.04 \\ -0.20 \end{array}$	1 80 0 65 3 07 0 45 0 42	15 8 8 18	24 13 20 13 20 20 20 10 10			5
P. E. Island-																			
Charlottetown (Exp. Farm) Hamilton	46 14 46 14 46 25	63 10 63 7 63 48	38 75	13 5 13 5 12 6	$-\frac{4}{4} \frac{6}{5}$	3	$\begin{array}{ccc} 46 & 0 \\ 48 & 0 \\ 48 & 0 \end{array}$	1	$-14 \ 0 \ -17 \ 5 \ -12 \ 0$	7	$\begin{array}{c} 16 \ 4 \\ 17 \ 9 \\ 12 \ 5 \end{array}$	2 50 2 52 1 52	+0 05 -1,69	0 50 0 63 0 60	10	$\frac{16}{18}$		1	
Newfoundland— *Amour Point Burin *Cape Norman Fogo Point Riche Port aut Basques St. George's St. John s.	49 43 50 42 47 35	56 51 55 10 55 52 54 17 57 25 59 10 52 42	27 30 35 27	12 1 7 1 14 8 12 4 18 2	 - - <u>\$</u> - 5 1	4 29 5 20 40	42 0 39 0 40 0 45 0 50 0	1 1 19 1	-13.0 -21.0 -12.5 -15.1 - 8.0	6 6 7	1 35 15 0 16 0 12 2	3 32 0 90 2 08 1 71 2 85		1.00 0 49 0.50 0.40 1.06	11 3 22 15 14	17 25 6 13 14			12
LABRADOR— North West River BERMUDA— Prospect.	32 17	64_46	151	61 S	+ 0 1	22	72 0	15	46 2	. 26	11 5	5 90	+1 11	1 16	15	13		1	

orp a spice No.	\		AINFA			-	SNOW	FALL.		
STATIONS.	Amoun in inches,	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month.	Date	Amount in inches.	No of Days	Heaviest Fall in Month	Date	REMARKS
RITISH COLUMBIA—										
Alkalı Lake . Annis (Canoe Pomt) .	0.50		17	0.33	16	0 1 7 0	1 5	0 1	28 2	
Armstrong	0 49	2	23	0 39	16	11 8	3	3 3 7 5	3	
Beaver Lake	2 00	5	. 22	0 80	15	3 0	1	3.0		
Coquitlam. Cariboo Road No 141	6 70	3	24	4 14	15	0.3	i	0.3	3	
Denman's Island	2 29	8	19	1 29	16	2 0	1	2 0	4	
Ferguson	2 82	5	20			32.0	8	9.0	15	
Hydraulic Hornby Island				1 08	. 15	6 0 8 3	3	2 0 4.5	2-4-22	
Hornby Island Invermere	2 27 2 00	6	21 25	1 51 2 00	16 17	1 5 0 8	1 2	4.5 1.5 0.5	4	
Jordan River	4 90	1 7	21	1 40	15				3	
Jordan River (Bear Creek) Little Qualicum	8 40 2 31	3	20 25	3 00 1 77	16 In	9.0	3	4 0	23	
Lumby	0 20	2	22	0.18	17	8.5	4	4 0	3	
Nans Harbour	2.98	4	22	1 12	12	6.0	1 2	6 0 3 H	8-10	
Naas Harbour . Rock Creek	1 65					3 0	2	1.5	2-3	
Shawnigan Lake Wycliffe	1 00		20	0.78	16	2 0 14 0	1 3	2 0 8 0	17	
LBERTA-										
Bardo						3 0	2	2 0	19	
Bismark Bruederbeim						2.7	3	1 7	2	
Bittern Lake						8.3	6	3 0	1	
Brooks	1 01	. 1		1.01	16	6 5 12 1	- 6 5	3 5 4 9	17-20	
Coleman Cowley.	0 25					11.8	Š	2.5	17-18	
Caldwell	0 23	1	19	0 25	17	6 6 22 5	8 9	2 0 5 0	10	-
Claresholm Dorenlee (Bashaw)						9.8	h	2.0	2 22	
Dunstable (Five Lakes)						3.8	8	3 0 1 0	18	
Grassy Lake	0 00	-	-	-		0.0	_	2 0	0.00	
Grassy Lake Jumping Pound Loch Sloy				1		5 0	3		3-20	
						15 5 14.2	5 4	5 3 5 0	17 24	
Lineham La Pearl	•			,			7			
Lethbridge Macleod						5 7 5 5	7 5	2 0 2 0	3	
Mayeroft	0.09		19	0.09	16	5.4	8	1 4	17	
Mountain View Nateby						18 0	4	8.0	21	
Nateby Nanton						6.0	4	2 0	2-17	
Okotoks Pekisko						17.3	5	5 0	21	
						11.5	ti	5 0	17	
Sion Seven Persons Tilley					1	3.7	2	2.0	21	
Seven Persons Tilley Writing-on-Stone (Coutts) Waterton Mills SEKATCHEWAN—									21	
Waterton Mills						5 5 34 2	4	2 3 13 5	21	
									- 0	
Gull Lake Gull Lake (Fks. Swift Cur.) Last Mountain						7.0	3	3 0	18-24	
Last Mountain						4.2	fi.	1.0	2	
Manle Creek						2.8	7	0.8	1-18	
Meadow Lake Willow Creek (Battle Cr.)						0.1	ï	0.1	1	
anitosa— Cartwright									i i	
Deloraine Norquay (Swan Lake)						6.3	S		15-18	
Norquny (Swan Lake) Rapid City						5.8	3 .	4 0	15	
Rapid City Rose Bank						7.9	5	4.0		
NTARIO - Brantford(Bow Park Farm)	0.27	3	14	0.17	0.1	2.1	11	3 0	26	
Charlton				0 17	21	7.4				
Deer Park Dutton	0 45	1	24	0.45	22	4.5 3.0	3 2	2 8 2 0	15 28	
Dutton Einsdale Fort Frances	11 23	2	1.5	0 15	21	25 0	11	6.0	3-4	
Georgetown	0.51	3	17	0.50	. 2,	3 8 8 3	4 8	2 7 2 0	18 15	
Grantham . Grand Valley	0.73	3	19	0 36	23	5.8	6	2 3	27	
MacChe						18 0 9 0	10 3	3 0 4 0	8-26 15-22	
Princeton Renfrew				•						
Sydenham					'	9.0	4	3 0	23	
Strathroy Watford	0 64 0 85	1 2	15	0 64	22	14 0	12	2 0	5-27	
Vestport			26	0 60	22	8 9	5	2.5	22	
Westminster Wooler	0 74	1	26	0.74	23	6.0	i	6.0	28	
Wesley					-				11 1	
Viarton	0 28 0 21	1	22 18	0 28 0 21	20 21	22 5 50 0	5 9	7 0 10 0	3 22	
Bark Lake (Riviere Desert)		•		0 21	21	Ju 11		10 0		
Kipawa Dam										
Lucerne Perkina Willa						25.5	8	10 0	15	
Quinze Dam	0 02	1	19	0 02	20	5 6	8 2 7	2.5 7.0	22	
I imiskaming	0 05	1	20	0 05	20	8 0 17 1	7	6.0	21	
Point Escuminac	0 12	2	22	0.09	1	13.5	4	5.2	23	
ova Scoria— Big Mushamush Lake (Ma-					.					
hone) Kentville										
	4						4		3	
Milton	1.03	9								
Milton Mushamush River (Materia)	1 01	2	22	0.75	1	15 3		6.0		
Milton	1 01 0 45 1.96	2 1 4	22 21 10	0.75 0.45 1.00	1 1 23	17 0 39 0		6 0 7 0 3.0	23	

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF FEBRUARY, 1915.

a Barometer not reduced to sea level

					e		I	RE	sst	RE.		_	idity.	cloud.	etely			Dir	ECTI	ON OF	W18	D FR	юм			Vi	LOCITY	or
STATION	2 7 7 7 1	Latitude in	Lonettude W.		Elevation above sea level, in feet.	Mean reduced		Highest.		Lowest.	Range	9	Mean relative humidity	O.	No. of days completely clouded.	Z	NE	Ε.	S.E.	×.	S.W.	16.	N.W.	C.	Total number of observations	Mean miles per hour	Maximum velocity.	Date and direc-
British Columbia— Atin Barkerville Kamiloops. a Nanatino Prince Rupert Tringle Island a Traquille Vancouver Victoria	59 53 50 49 54 50 50 49 49	35 2 42 10 18 52 41	133 121 120 123 130 129 120 123 123	35 29 37 18 5 29 5	2240 4180 1245 125 170 680	30 30 30 30 28 30	13 20 03 06 08 84 13	30.5 30.8 30.3	18 2 2 2 2 2 17 2 2 17 2 2 17 2 2 19 2 2 19 2 2 19 2 2 19 2 19	9 62 9 55 9 63 9 63 9 79 8 33 9 63	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	96 21   75 01 70 05 84	- - 80 88 80 81	5 4 4 5 7 7 5 6	5 8 17 14	9 0 0 0 4 0 0 21	3 0 6 0 1 6 0 1 10	13 5 6	6 0 0 7 3 12 0 15 2	1 0 0 1 1 1 0 4 5	1 2 0 2 0 3 0 1 1	1 0 27 1 2 5 6 11 5	3 0 3 16 0 20 0 1	19 54 17 30 36 0 44 16 0	56 56 56 56 56 56 56 56	6.5	31	
YUKON— Dawson	64	4	139	20	1200																							
ALBERTA— Banff Calgary Edmonton Mcdicine Hat	51 51 53 50	33	115 114 113 110	2 30	4542 3389 2158 2161	30.	11	30 8 30 7 30 8 30 7	0.2	9 56	; 1 ; 1 ;	14	71 67 84	4 4 5		2 6 8 9	8 2 3 2	0 0 1 0	4 4 2 0	2 3 6 3	20 3 3 41	4 I 16 15	1 30 16 7	15	56 56 56 84	6 0 5 9	22 20	24 N 28 S I
ASKATCHEWAN— Battleford	52 50 53 50 50	41 21 10 30 20	108 105 106 103 107	20 35 47 45	1620 1759 1432 2115 2439	30 30, 30 30, 30,	10 17 07 06 09	30 5 30 6 30 5 30 4 30 5	52 2 55 2 51 2 57 2 58 2	9 6: 9,5: 9 6: 9 6: 9 5:	10.1	88 06 84 85 08	97 86 74		17	1 6 7 2 1	1 2 1 1	4	18 4 2 7	0 0 2 6 4	3 7 2 6 23	16 17 11 10 23	23 18 13 20 19	19 22 9 0 12	84 84 56 56 84	7.9 6.6 12.3	18	4NV
Janitoba— 7 Aweine (St. Alban's) Minnedosa Le Pas Winnipeg	49 50 53 49	42 15 49 53	99 99 101 97	33 50 15	1180 1699 860 760	30 30 30	09 14 11	30 5 30 5 30 5	19 2 51 2 51 2	3 75 9 80 9 10	2 0 : 1 0 :	71 35	98 96 94	4	6	3 I 12	 3 6 7	8	4 1 7	0 2 3	3 4 19	10 16 13	37 18 19	13 0 1	84 56 84	9 3 9 9	32	6NV
ONTARIO— Cochrane Guelph Haileybury Kingston London Limisay Parry Sound Port Arthur Port Stanley Southampton Stonecliff Toronto White River Woodstock	49 43 47 41 42 44 45 45 48 42 44 46 43 18 43	33 29 13 59 20 26 19 27 40 30 9 40 35	81 79 76 81 78 75 89 81 81 87 89 81 88 79 85	0 16 39 29 13 45 42 0 12 13 21 6 47	285 808 872	30 28 30 30 30 30 30 30	04 00 99 00 03 08 01 02 05	30 . 6 30 . 5 30 . 5 30 . 5 30 . 5 30 . 5 30 . 5 30 . 5	52 22 16 2 15 2 15 2 15 2 16 2 18 2 18 2 18 2 18 2 18 2 18 2 18 2 18	9 65 9 56 8 66 9 56 9 56 9 56 9 66 9 66	2 1 ( 5 0 : 5 0 : 5 0 : 5 0 : 1 1 ()	90 95 96 92 93 11 93	87 81 89 87 83 83 81 89 81	5 76 6 5 6 4 6 9 3 5 4 6	14 5 11 6 12 5 9 20 2 6 2	5521 5859 4100 8116	7	2 1 9 8 12 5 7 2	6 5 3 16 9 1 6 1 8 7 2 1 0 8	0 5 0 0 2 0 1 6 0 5 0 1 4	21 8 8 10 23 6 13 0 15 19 0 25	28 28 11 17	9 35 16 10 12 23 14 11	11 10 0 0 7 0 4 2 0 2 31 0 23 0	56 56	10 6 9 3 11 4 3.9 18 5	23 38 11 39 20	11 N
QUEBEC— Father Point Montreal Quebec Sherbrooke	48 45 46 45	30 48	68 73 71 72	19 35 13 5	20 187 296 620	29 29 29	99 94	30 3 30 4 30 4	33 2 52 2 14 2	9 33	5 1 8 1 8 1.	14 11	71 64 69	7 6 7	11 7 10	18 1 1	17 22	10 3 1	1 2 0	9 3 0	12 16 22	9 26 34	18 15 4	2 1 0	84 84 84	18 5 17 6	39	1W SW 15-22
New Brunswick— Chatham Fredericton St. John	47 45 45	3 57 17	65 66 ,66	29 36 4	21 164 70	29 29	89 92	30 3 30 3	28 2	9 19	81	12 00 .	75 82 70	4 5 5	8	3 5 24	3 11 7	12 1 5	1 1 2	0 3 3	15 10 4	26 19 12	22 30 25	2 4 2	84 84 84	10 9 15 6	37 46	1W 1NV
NOVA SCOTIA— Halifix Sable Island (MStation) Sydney Wolfville Yarmouth	44 43 46 45 43	57 10 7	63 60 60 64 66	36 6 10 20 2	88 25 35	129	85	30 : 30 : 30 : 30 :	24 2	9 2	80	96	88 86 80	6 8 6 7 8	. 14 . 9 14	3 4 6 4 11	12 11 10 7 4	3	7 2 1 2 4	0 6 3 4 3	5 10 15 9 2	5 11 9 12 3	20 37 34 13 18	0 0 2 1 0	56 84 84 56 84	14 2 18 9 12 5 16 2	50 38	19 N 18 N 1W 1
P. E. Island Charlottetowa	46	14	63	10	38	29	85	30 :	27 2	9 2	9 0	98	84	ŧ	12	9	7	2	1	4	6	5	13	9	56	8 2	3+	19 N
NewFoundland Burin Fogo Port auv Basques St. George's St. John's	47 19 47 48 47	43 35 27	55 54 59 58 58	10 17 10 31 42	27 30 27 21 125	29 29 29 29	66 73, 75 61	30 30 30 30	37 2 30 2 30 2 26 2	8 8 19 1 19 0 19 0	7 1 0 1 7 1 1 1	50 20 23 25	68 69	8 7 6	9	3 2 4 6	- 6	12	2 1 3 3	4 5 0	2 3 7 6	3 14 10 11	6 18 20 19	 2 0 0 1	54 56 56 56			
BERMUDA Prospect	32	17	64	46	151	30	.11	30	51.9	9 6	8 0	83	80	;	. 5	14	5	. 5	4	8.	19	8	21	0	84			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF FEBRUARY, 1913

			DIR	ECTIO	O ZC	F WI	ND I	FROM		
STATION	ż	N E	ы́	S.E.	ò	S.W.	M	N.W.	ပ	Total number of Observations
ALBERTA—			-					-	_	
Athabasca Landing	1	0	2	0	1	0	10	14	0	28
Didsbury . Endiang .	1	0	2	0	0	3	0	22	0	28
Halkirk (Emsburg)	4	1	3	2	5	13	10	18	0	56
Hillsdown. Loveland	2	3 4	0 2	4	0	7	3 9	30 29	7	56 56
Macleod	$1\overline{2}$	0	2	0	ĭ	ó	22	2	17	56
Pakan (Victoria)	5	3	3	4	1	4	17	37	10	84
ASKATCHEWAN—						·-	1	"		
Chaplin Crescent Lake	4	0 2	0	7	9	0 3	0 10	17	0 2	28 28
Estevan	0	2	3	. 0	7	8	4	4	0	28
Estevan Fort Qu'Appelle	5 2	5	12	2	1	11	22	. 5 11	2	56 49
Grenfell (Brownhill) Indian Head	6	2	2	9	6 9	12	6	34	4	84
Larchmount (Glenbryan)	1	4	0	3	0	16	10	22	0	56
Moosomin			5	3	9	8	10	19		56
Onion Lake	2	2	6	1	Ű	Ü	8	8	i	28
Pense (Gatesgarth)	0	$\frac{1}{2}$	5	8	0	0	5 4	14	0	28 28
Waseca Anitoba—	1	-	3	1	U	,	4	11	U	28
Berens River	16	0	10	1	10	. 3	0	15	1	56
Brandon Hillview	1	22	1	1 8	0	11 10	13 10	19 42	5	73 84
Moose Horn Bay (Aitkensville)										
Morden	18 14	2 2	3	1	1	9 5	10	7 8	8	56 56
Oak Bank Stony Mountain	4	13	2	1	6	4	19	7	0	56
NTARIO	2					0.1				
Agincourt		7	12	3	0	21	18	21	0	84
Beatrice	3	0	3	7	10	11	4	18	28	84
Birnam Clinton	6 5	3	5 3	6 7	3	13	12 11	7	0	51 56
Cottam	14	í	5	7	5	3	21	0	0	56
Gravenhurst	8	3	18	5	10	6 23	11	6	17	84
Lindsay	9	- 6 10	5 8	9	2 8	16	11 28	16	0	84
Ortllia										
Owen Sound Point Clark	9	4	10	5		11	10	1	0	56
Port Dover	3	2	4	ĭ	4	i	8	5	0	28
Stoney Creek	10	12 2	11	4	. 1	13	27	6 2	0	84 28
Uplands Wexford	6	0	5	i	0	2 2	8	8	3	28
UEBEC— Abitibi	12	1	13	5	14	5	29	5	0	84
Anticosti, W. Pt	16	4	14	2	6	5	4	33	3	84
Anticosti, Heath Point Bicquet	30 10	3 10	10	$\frac{2}{0}$	.3 16	5 11	10 6	14 31	7	84
Brome	5	2	6	0	10	9	39	7	6	84
Cape Chatte Cape Magdalen	3	1	5	1	0	3	51	1	19	84
Cape Magdalen	2 7	6	9	4 0	9	0	0	49 15	10	84 28
Cap Rouge Chicoutim	ó	8	ő	2	o	ŏ	Ü	53	21	84
Chirke City			· · · · · ·					· · · · · ·		
Manouan Crossing White Shore Lake										
and December 1										
ew Brunswick – Dalhousie	0	0	6	1	0	1	18	1	0	27
Moncton Pt. Lepreaux	3	4	2	0	1	i	4	13	0	28
Pt. Lepreaux Sussex	13	10	9	1 0	0	6	3	30	14	72 28
	v	7	J	U		U	U	,		-0
OVA SCOTIA	4	1	3	0	1	5	11	3	0	28
Kentville Parrsboro										
Port Hastings	0	9	0	5	0	6	0	8	0	28
Sable Island, E. Pt. Truro										
Whitehead	19	7	6	5	6	14	2	25	0	84

## MEAN PROPORTION OF BRIGHT SUNSHINE REGISTLEED IN EACH HOUR OF THE DAY IN THE MONTH OF FEBRUARY 1913

									Нот	ns End	OING							
STATION.	4 a.m.	5 a m	6 a m.	7 a.m.	8 a.m.	9 a m.	H 75 E	11 a m.	Noon	1 p m.	2 p m	m d c	1 p m.	J b m.	6 p.m.	7 p m.	Spm.	9 p m.
Victoria					01	19	31	39	+1	45	47	-4	28	01				
Salmon Arm					03	. 18	31	11	52	59	tite	60	12	16	01			
Vancouver					0.5	28	36	46	500	15	\$9	42		12				
Agassiz					08	36	49	46	11	ān	45	41	18	10		. ,		
Tranquille																		
Summerland					25	50	69	68	65	70	1.5	63	314	02				
Kamloops					09	24	30	4.1	51	55	53	56	(9)	(16				
Harper's Ranch				04	15	28	11	58	57	48	41	21	(16	04	03			
Edmonton					{(4	25	28	44	50	51	54	57	42	11				
Lethbridge					08	.35	39	4.1	49	50	49	46	36	04				
Lacombe					11	32	39	51	1.5	45	49	45	. 4	11				
Medicine Hat																		
Fort Dunvegan					03	15	35	46	53	45	51	45	18					
Fort Vermilion					13	39	53	62	63	h2	6.5	50	.23	01				
Battleford					05	.30	52	60	61	+,4	63	64	63	13				
Indian Head						08	27	35	36	35	3.5	27	16	04				
Moosejaw					116	24	35	\$1	38	43	43	44	40	15				
Scott					09	23	.36	41	45	53	42	5.5	41	12				
Rosthern					05	25	31	33	38	59	59	52	4.5	22				
Brandon					08	47	56	61	60	56	40	44	23					
Winnipeg					01	22	14	48	52	54	65	65	47	11				
Haileybury					12	33	44	51	51	50	58	53	43	26				
Woodstock					02	15	37	51	46	4.4	46	5.5	40	15				
Lindsay						.05	31	48	47	54	57	5%	47	16				
Barrie					09	24	.32	50	4.1	46	47	$\frac{4}{2}t_1$	25	08				
Toronto					03	20	40	53	57	59	56	54	52	23	01			
Kingston					01	21	36	49	51	53	51	44	32	04				
Ottawa				,	15	44	52	59	56	61	49	42	45	18				
Montreal																		
Cap Rouge					Т	22	32	43	42	37	39	36	25	04				
Quebec					01	24	44	54	53	46	45	42	31	08				
Ste. Anne de la Pocatiere				11	34	51	51	45	4.4	3.5	.14	28	08					
Sherbrooke																		
Fredericton					07	43	48	53	52	5.5	51	51	51	28	,			
Charlottetown					11	30	39	39	41	43	49	45	40	19	01			
Nappan	1		1		05	28	47	49	50	49	49	49	50	24	01			
Wolfville					07	.25	26	30	34	40	40	39	35	20	Т			

# SUMMARY OF SUNSHINE RECORDS

	Registered duration an hours	Percentage of pos- sible duration	Difference from average	Maximum percent- age in one day	Date of maximum	Number of days completely cloud- ed
Вітотэі V	81	28	0 +	52	23	=
Salmon Arm.	113	<b>9</b>	<u> </u>	56	4-5	9
Уапсоцует.	- 26	34	+	06	12	ŵ.
ziestigA	102	175	- 13		54	5
Tranquille.						
Summerland.	143	51		120	21	7
Kamloops.	- 2	37		Ŧ	13	D.
Harper's Ranch	- 16	33		Ē	100	~~~
Edmonton.	60	37		55	- X	
Lethbridge.	- 50	36		98	×	
Medicine Hat.	104	38	:	91	23	Š
Fort Dunyegan					-	
Fort Vermiton	2	233	1	17	92	,
Battleford.	30 13	2	- [	6	95	+3
besH asibal	133	- 4		×8	- c	10
wat secol.		23 3	- =	90.	-1	=
Scott.	2 8	33	- !	- 68	123	
Rosthern	104	98		- 16	C1	o
Brandon.		30	1	- 3	102	
.gədinniVI	112	- F	- 1	ž	77	- 6
Haileybury	×	=		53 92	3 23	10
Woodstock.	86	34		83	-57	
. Yesbai: I	102	35		77	12	<sub>10</sub>
. эіттеЯ	83	33	+	35	12	r.D
Toronto.	=	40	+	- 6	- 2	*0
Kıngston.	95	33	Ī	ž	Ξ	
.rwellO	- 5	73	.5	Z	55	C.1
Montreal.	1 :		-			
Cap Rouge.	, %	2.7	i	о: I -	8	19
Оперьс.	16	34	es 	80	45	0
Ste. Anne de la Pocatiere	96	33		ž	63	t =
Sherbrooke			- 1	:		00
Fredericton.	123	Ç.		90	2-24	- 00
Charlottetown.	8	35	1	8	61	22
u cdde <sub>N</sub>	113	39	- 1	8	26	1-
9llivlloW	1		1			

### Thunder recorded:

- 1. Charlottetown, Fredericton. 3. 4. 5. Bermuda 6. 7. Š, 9. 10. 11. 12. 13. 14. 15. 16. 17. Nakusp. 18. 19. Providence Bay. 20. Clinton, Lucknow, Point Clark. 21. 22. Georgetown, Westminster, Elora, Paris, Birnam, Clinton, Port Stanley, Woodstock, London, 23.
- 24.
- 25.
- 26.
- 27.
- 28.

	-·
	Auroras recorded :
1.	
2.	Ranfurly II.
3.	Atlin III.
4.	
5.	Atlin III.
6.	Atlin IV.
7.	
8.	
9.	
10.	
11.	Kakabeka Falls III, Schreiber III, Aitkensville III.
12.	Waseca, Swift Current II, Haileybury III.
13.	
	Halkirk.
15.	
16.	
17.	
18.	
19.	
20.	
	Montreal.
22.	
23.	
	Aweme III, Haileybury III.
25.	Aweme IV. White Shore Lake III. Ranfurly IV

26. Schreiber IV, Aweme IV, Melfort IV, Swift Current III, Ranfurly III.

27. 28.

### FORECASTS FOR FEBRUARY 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1179. These were divided as follows:—

		No	VERIFIED.				
De	irreT.	Issued.	No. Tally,	No. Partly	No Not.	Per- centage	
Alberta							
Saskatchewan		80	57	15	3	31.4	
Manitoba		8-1	6.1	15	5	54.4	
Lake Superior 🐰 .		95	78	15	3	9) 8	
Georgian Bay		115	75	13	1+	75.7	
Ottawa Valley .		97	7:	12	12	51.4	
Upper St. Lawrence		વહ	7:	15	~	5: 1	
Lower Lake Region		115	93	12	10	16.1	
Lower St. Lawrence		101	7.5	20	В	34.2	
Gutf		1.4	7.	23	5	41.7	
Maritime Provinces West		110	51	21	4	53.2	
Maritime Provinces Cast		111	711	26	12	77.5	
Total		1179	871	205	101	52.7	

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, March 27th, 1913.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Meather Review

VOL. XXXVII.

**MARCH**, 1913

No. 3.

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau. Washington, D.C.

### TEMPERATURE.

From the Pacific Coast to Lake Huron, the mean temperature of March was lower than the average mean, except in a part of Southern Alberta. Eastward from the Georgian Bay to Newfoundland, however, there was an excess over average temperature.

### BRITISH COLUMBIA.

Over the greater part of the province the difference from average was negative, and about 3°. The greatest differences occurred in the region about the upper Fraser River, exceeding 5°. The early days of the month were quite mild, but between the 18th and 26th intervened a period of very cold weather, temperatures considerably below zero occurring in the northern sections of the province.

### THE WESTERN PROVINCES.

From the 12th to the 27th minimum temperatures were below zero, while maximum temperatures did not as a rule exceed 20°. The remainder of the month was moderately cold.

In the country between Calgary and Edmonton very mild weather during the first and last

In the country between Calgary and Edmonton very mild weather during the first and last weeks brought the mean temperature of the month up to average, or a very little higher. Elsewhere in these provinces, however, the mean temperature was lower than average, the greatest differences occurring in Manitoba, where they ranged between 5° and 10°.

### ONTARIO.

During the first ten days minimum temperatures below zero were reported on from 1 to 6 days. After the 12th, however, much milder weather ensued, temperatures between 50° and 70 occurring frequently during the remainder of the month. The general difference from average was 3° above, but 5° was reported from some districts.

### QUEBEC AND THE MARITIME PROVINCES.

Temperatures below zero were recorded on from 8 to 11 days in the region between Abitibi Lake and Lake St. John, but along the middle St. Lawrence and in the Maritime Provinces on no more than 3 days, and in some parts of Nova Scotia not at all. The general difference from average was 3°, although in the western counties of New Brunswick, more than 4° was reported.

### HIGH AREAS.

Ten areas of high pressure were charted. Five first appeared in the Yukon Territory, one near Vancouver Island, two on the United States Pacific Coast, one in Saskatchewau, and one in Manitaba. The general drift of the areas was southeastward to the Lower Mississippi Valley, thence eastward and off the United States Atlantic seaboard, while, with few exceptions, they were of moderate energy only.

### LOW AREAS.

Fifteen areas of low pressure were charted. Seven first appeared in the far northwestern portion of the continent; four in the Pacific States; three in the Southwest States, and one in the vicinity of Florida. The general track of the areas was over or a little to the southward of the treat Lakes, thence to the Maritime Provinces, and out to sea. Many of the systems were of much energy, causing a large wind mileage for the month in nearly all portions of the Dominion.

The system which appeared on the 17th on the Pacific Coast, near the International Boundary, after moving south-easterly to Northern Texas, quickly recurved to the northeast during the night of the 20th, with greatly increasing energy, and on the 21st it passed over the Lower Lake and the Georgian Bay districts, accompanied by winds of hurricane Force.

### ATMOSPHERIC PRESSURE.

Using the results obtained at the Telegraph Reporting Stations as indicative of conditions throughout Canada, it appears that during March the pressure exceeded the normal in British Columbia, Northern Alberta, Quebec, and the Maritime Provinces, and reached the average in Manitoba. Elsewhere in the Dominion, subnormal values obtained. Positive differences from average exceeded 0.15 of an inch in British Columbia and the Maritime Provinces, and negative departures were about 0.05 of an inch in Northern Ontario and 0.02 of an inch in Saskatchewan.

### PRECIPITATION.

### DRITISH COLUMBIA.

Along the Fraser River and the north coast the normal precipitation was exceeded, the excess in some instances reaching fifty per cent. Over the remainder of the province there was a general deficiency which was greatest on Vancouver Island.

### THE WESTERN PROVINCES.

Along the Qu'Appelle River there was a general excess which was large relatively to the small normal March precipitation. Elsewhere in these provinces the distribution was very irregular.

### ONTARIO

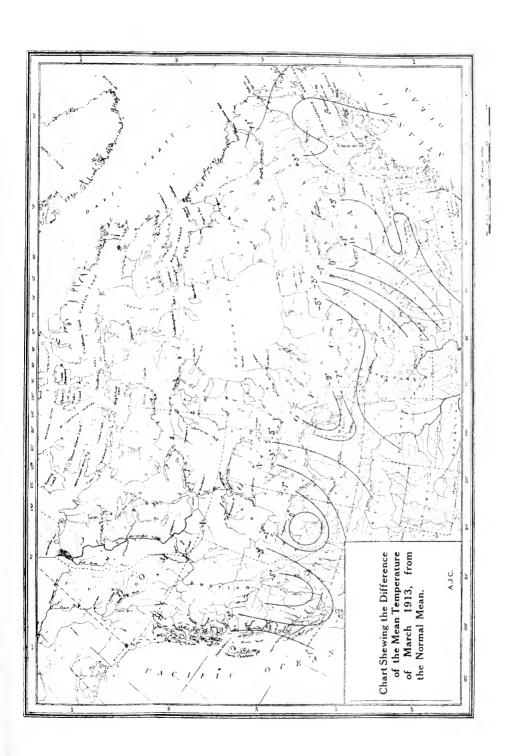
In the counties bordering on Lakes Eric and St. Clair, and in the Niagara Peniusula there was a very heavy precipitation, the excess in several places approaching 4 inches. In the counties contiguous to these the precipitation was nearly as great, but elsewhere in the province, although excess over normal was general, it was much smaller.

### QUEBEC

Along the middle St. Lawrence, where the normal precipitation for March ranges between 2 and 3 inches, from 3 to 7 inches were reported, but over the remainder of the province there was a general deficiency.

### MARITIME PROVINCES.

In New Brunswick and Prince Edward Island, there was a marked excess over normal which was not maintained in Nova Scotia.



### WINDS, MARCH, 1913

FROUNCIS AND STATIONS		Total Mileage.	Greatest	Greatest Mileage in 1 Hour		Number of Days of			Comm	
			Mileage in 24 hours.	Miles	Direction	Date	Gales	Strong Winds	Fresh Winds	General Direction.
Звітічні Соблімвіл										
Atlen Prince Rupert Victoria Point Garry Vancouver Kandoops		6122	570	40	8W	29	3	s	9	sw
ACREBIA		(7::	270	22	N.W.	3.0		2		NIMI
Edmonton Calgary		4755 4233	263	22	Z.M.	30		3	14 13	NW NW
SASKATCHEWAY										
Battleford Prince Albert		4507	270	28	NW.	28		5	13	NW
Swift Current Qu'Appelle		7403	437	26	NW	16		7	18	SW, NW
MANITORY					1					
Le Pas Wimapeg		4427 8750	309 598	32	N/W	4	3	12	13	SW, NW SW, W, NW
ONTARIO										
Port Arthur White River		8792	788	52	NW	24	4	9	16	NW
Cochrane *Parry Sound Souchampton		6414	559	52			3	7	· · · · · · ·	sw
Pelee Island Woodstock *Guelph		9631 6020	358 504	47	sw	21	5	13	9	SW SW
Totonto *Kingstor Stonecliffe Ottawa		11940 8066 3827	765 547 294	18 31 20	W SW W	21 18 21	8 3	20 15 1	3 8 9	W W W
QUEBEC								1		
*Montreal		. 8489	582	60			1	22	8	sw
Sherbrooke Quebec Father Point		10723 13989	888 988	58 55	sw sw	22 22	10 18	12 8	5	SW SW
Anticosti . Harrington .			**			:				
NEW BRUNSWICE										
Pt. Escuminae Fredericton St John Pt Lepreaux		7347 11222 14886	548 688 914	36 40 53	NW SW W	28 7 6	3 11 21	7 6 7	13 3 3	sw sw w
NOVA SCOTIA										
Yarmouth Wolfville		11074 10845	658 615	41 41	SE	31	6 10	10 11	6	S W
Halifax Sable Island Flat Point		11520	626 834	54 45	sw	. 23	13	12		NW SW, W, NW
PRINCE EDWARD ISLAND										
Charlottetown		7384	462	36	sw	7	2	9	19	sw

<sup>\*</sup> Part of month only.

## FREE AIR DATA.

## REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8 N., Long. 80' 47' W.) on March 5th, 1913.

Instrument—Dines Meteorgraph, Beginning of Ascent—La.m., G.M.T. Barometer—728 mm. Temperature = —3°.5C. Fell—200 km, distant, N, 60 E, Maximum Height—7.1 km, Minimum Temperature 55.5°C.

Temperature = -3°.5C.

Direction of flight at beginning—Northeast in a gale

Height in km. above S.L	Pressure in mm.	Temperature in Centigrade degrees
G.L30	728	- 3,50
.50	707	- 6.50
1.00	661	1.50
1.50	619	12.50
2 00	580	16.00
2,50	540	-21.50
3.00	504	-25.50
3,50	468	32,00
4.00	437	- 36,00
4,50	407	\$0.50
5,00	377	42.50
5,50	348	- 53,00
5 80	332	-55.50
6.00	322	-56,00
6,50	298	55.00
7,00	276	54.00
7.10	272	54,00

An area of low pressure covered the eastern part of the continent, its centre lying over Lake Huron.

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, 1913

## \*Stations not furnished with Registering Thermometers.

i				t 1		:		Темре	RATURE			İ	Prec	IPITATIO	N	more.				
STATION.	N of miles	Latitude 14:	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average	Yr's Observations	Highest.	Date.	Lowest.	Date.	Mean daily range.	Amount	Difference from average.	Heaviest fall in month.	Days with .01 or me	No. of fair days.	No. of auroras.	No. of thunderstorme.	No. of fogs.
BRITISH COLUMBIA-											!									
S. Vancouver Island	0	,	. ,																	
Alberni (Beaver Creek) Clayoquot Cloose	49 49 48 49 49 48 48	15 11 25 10 17 50 41 24	124 49 125 55 123 42 123 37 124 12 123 20 123 44 123 19	300 27 170 125 130 25 85	38 3 42 5 39 4 39 6 39 1 37 2 38 5 39 3 41 4	- 3 S + 0 1 - 2 7 - 2 7 - 2 8	18 13 1 7 1 13 1 4 3 20	65 0 56 0 52 0 57 2 55 1 60 0 54 0 52 0 57 0 56 6	10-11 9 7 8 6 8 9 7-9 7	14 0 26 0 18 0 19 0 12 1 15 0 23 0 18 0 22 7	20 19 19 25 — 20 20 19 20 20	20_4 11.6 13_4 16_1 	3 53 8 43 4 90 2 04 2 25 2 99 1 32 2 42 3 17 2 00	-2.03 -1 66 - - -0 11 - - -0.71	1 05 1 65 0 67 0 34 0 80 1 20 0 33 0 49 0 60 0 62	15 17 12 14 11 10 10 14 11 11	16 14 19 17 20 21 21 17 20 15		2	
N. Vancouver Island Holberg Swanson Bay Triangle Island Winter Harbour (Quatsino)	50 50 50 50	37 52	128 18 126 53 129 5 127 40	680	35.7 34 9 40 8	_ _ 1 0	4 5 18	52 7 45 0 56 0	12- <b>13</b>	19 0 16 0 20 0	21 19 20	10 6 9 1 13 2	5 84 18 02 4 26	_ 	1.79 2.50 0.74	17 20 15	14 11 16			
Lower Fraser River Agassiz Chillwack Hope Ladner North Nicomen Pemberton Hatchery Pemberton Meadows Ruskin Stave Falls Steveston Garry Point). Vancouver	49 49 49 49 49 49 49 49 49	10 1 23 1 05 1 13 1 12 1 20 20 20	122 54 122 2 122 33	52 21 500 330 59 125 136	40 3 39 2 34 8 40 5 40 5 39 2 39 4 34 0 32 9 37 4 39 0 40 0	$ \begin{array}{r} -3.6 \\ -3.1 \\ -1.1 \\ -3.3 \\ -3.1 \\ -1.2 \\ -1.2 \\ -2.7 \end{array} $	13 13 25 21 5	59 0 59 0 58 0 56 0 56 2 59 0 51 5 55 0 52 0 53 0 54 0	8 7-9 6 6 9 7 7 6 31 6 7	$\begin{array}{c} 17.0 \\ 18.0 \\ 7.0 \\ 20.0 \\ 18.2 \\ 20.0 \\ 10.0 \\ -1.0 \\ 19.0 \\ 20.0 \\ 19.7 \end{array}$	19 19 20 19 20 25 19-25 20 24 20 20	14 9 13.5 18 6 10.9 13.3 15 0 15 4 20.7 13.6 12.8 11.7	7 66 7 46 4 76 2 70 6 28 7 54 0 77 1 05 8 93 2 85 5 37	+0 17	0.74 0.50 1.55 1.60 0.20 0.50 2.57 2.071	14 7 8 15	19 22 14			4
Upper Fraser River Babino Lake Barkerville Barkerville Chilootin (Big Creek) Fort George Fort St. James (Stunrts Lake) Hydraulic Queenelle	5.5.5.5.5.5	3 02 1 40 4 28	123 0	4180 3100 	11 3 20 9 22 4 22 4 20 8 24 6 24 4	+ 0 3	3   20	50 0 47 0 45.0 51 0	6-7 7 7 8	$\begin{array}{c} -25 & 0 \\ -19 & 0 \\ -26 & 0 \\ -30 & 0 \\ \end{array}$ $\begin{array}{c} -26.0 \\ -19 & 0 \\ -17.0 \end{array}$	20 19 19 20 20 20 20 20	18.5 25 4 22 4 21 2 19 9	1 65 4 15 0 65 4 48 1 01 2 07 1 18	+2 00 +0 11 - +0 12	1 30 8 0 30 0.80	14 5 13	17 26 18			
Okanagan Valley Armstrong Hadley (Nickel Plate) Keremeo, Kelowna(Okanagan Miasion Penteton Princeton Richlands Summerland Vernon Coldstream Ranch	4	9 15 9 29 9 29	119 29 119 35 120 29	1200 1650	29 9 9 21 6 34 8 32 8 34 8 32 2 2 2 2 8 6	$\frac{-3}{-2}$	1 18	54 0 45 9 55 0 55 0 58 0 53 0 53 0 53 0	5-6 9 30 29 30 6 29 30 29	$\begin{array}{c} -40 \\ 10 \\ -160 \\ 70 \\ 60 \\ 75 \\ -50 \\ -100 \\ 6.0 \\ 0.0 \end{array}$	20 20 20 20 20 20 20 20 20 20	18.7 19.4 17.4 16.7 19.8 23.3 23.8	0.42 0 94 0 65 0 13 0 26 0 28 0.18 0 00 0 20 0 34	-0.4 -0.4	3 0.10 0.10 0.00 0.10		25 26 26 26 26 26 27 27 27 27 27 27 27 27 27 27 27 27 27	5		
West Kootenay Crawford Bay Creston. Grand Forks. Greanwood Howser Kaslo. Nakusp. Needles (Fagner) Nelson Rossland	4	9 41 9 5 9 5	2 118 23 118 45 2 117 (	1752	30, 2 29, 6 30, 3 28, 6 29, 2 34, 3 32, 9		1 10 10 10 10 10 10 10 10 10 10 10 10 10	51.0 53.0 53.0 2.59.0 48.0 45.0 48.0 56.0	31 29-30 31 9 8-9 9-30	$\begin{array}{c} -3 & 0 \\ -3 & 0 \\ 0 & 0 \\ -2 & 0 \\ -1 & 0 \end{array}$	20-21 19-20 20-21 20-21 20-21 20-21	15 6 17.3 24 1 15 5 14.1 5 15 8 1 25.3 1 6 4	3 76 1.48 0 72 0 33 0 19 1.11 2 00 0 77 1 43 2.11	3 3 9 1 — 0 — 77 — 22 —0 2	0.71 0.44 0.11 0.21 0.1- 0.4- 0.80 0.30 0.7	0 1 5	9 2 8 2 8 2 7 2 8 2 7 2 8 4 2 2 6 0	33333337755		
East Kootenay Akamina Cranbrook Tobacco Plains (Elko) Waneta Wilmer	4	19 1 19 3 19 3	1115 5	5 2684	26. 28 29. 23	5 -		4 54 0 5 54 1 1 49.5 4 47.0	9 9 9	1.5	i   20	16.8	2.20 0 6 2.0 0 8	2 -0.4 4 -	1.3 19 0.4 0.8 0.4	0 4 1	3 2 2 2 2 2	8 .		i
Thompson River Asherolt Enderby Harper's Ranch Kemicops Monte Creek Nicola Lake Salmon Arm (Exp Farm) Tappen Tranquille		50 4	2 119 3	9 1245 9 2120 5 1152	33.30.30.32.26.30.30.30.30.30.30.30.30.30.30.30.30.30.	6 - 5 - 4 - 4 - 1 - 1 - 1 - 1 - 1	6 1: 8 1:	1 63 0 9 57 0 1 56 0 8 57 0 1 51 0 2 50 0 1 58 0	31 10 30 30 8-30	0 0 2 0 5.6 0.0 0 0	2 2 2 1 2 2 2 2 2 2	9 19.8 0 19 1 0 17.1 8 19 3 0 17.1 0 18 2 9 18 6	0 1 0 1 0 0 6 1 0 6	4 -0 : 5 -0 : 2 -0 : 5 -0 : 60 -0 : 1 -0 : -1 -0 :	0.1 25 0.1 0.0 50 0.1	2 0 0	1 2 2 7 3 7	2 7 10 19 14 18 14		
North Columbia River Glacier Golden Invermere, Revelstoke	1	51 1		9 4072 6 1476	23 25	6 - 5	5 1 8 1	5 38 ( 0 47 ( 1 58 (	28	-24 0	20-2	1 13.3 0 21.7 0 29 4 1 18 8	8 0 0.9 0.3	05 +1 00 +0 15 -	0.2	0.	2 2	15		

# FEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, OU.

\*Stations not furnished with Registering Thermometers

								Темн	EKATU	RE	- 8		PRE	CIPITAT	ION	-				
				£			ž					-				Brofe			ortns	
STATION		Latitude N	Longstude W	Elevation above level, in feet.	Mean.	Difference from average	VrsObservations	Highest	Date	Lowert	Pate	Mean duily range	Amount	Difference from	Heaviest fall in month	Days with 0 Lor	No of fair days	No of auroras	No of thunderstorms	No of fogs
BRITISH COLUMBIA-Con.	_						_									_	_	_	-	_
North Coast	٠	,	. ,																	
Bella Cools Khtada River Prince Rupert Stewart Terrace	54 56	4	126 <b>54</b> 130 <b>15</b> 130 <b>1</b>	150 170 215	34 5 37 3 27 9 32 5	- 2 3 - - -	15 4 3 1	55 0 52 0 41.0 47 0	6	$\begin{array}{c} 10 \ 0 \\ \\ -3 \ 0 \\ 11 \ 0 \end{array}$	19 18 19 19–20	17 1 9 0 13 3 11 4	3 67 14 11 6 31 3 14	+0 54 	0 99 1 62 1 02 0 94	12 17 13 10	14 18 21		:	:
Queen Charlotte Islands																				
Ikeda Bay	52 53	17 55	131 <b>7</b> 132 9	30 30	43 3 38 9	_ 0 7	5 15	52 0 49 0	6	15 0 20 0	18 20	9 4	5 0I 4 59	-1 58	0 17 0 55	19 16	12 15			
ukon Boundary																				
Atlin	59	3.5	133 35	2240	19 3	-	7	42 0	5	<b>-15</b> 5	19-20	15.5	20	-	0 10	4	27			٠.
Carcross	60	11	134 <b>34</b> 139 29	2171 1200																
IACKENZIE -		•																		
Ft Resolution	61	0	113 0	800																
LBESTA -																				
V. Saskatchewan River																				
Campsie Daysland Edmonton Endlang Gilt Edge Halkirk (Emsburg: Loveland, Pakan (Victoria) Ranfurly (Waitefield) Sion Wastinia	54 55 52 52 52 52 53 53 53	52 33 0 59 17 30 0 29 54	114 42 112 17 113 30 112 0 119 43 112 10 111 59 112 31 111 38 114 15	2158 2795 	17.8 17.2 21.6 14.7 17.0 17.7 15.0 18.4 15.2	+ 0 1 	2 6 31 3 4 4 8 2 1	50 5 52 0 52 7 49 0 46 0 51 0 47 2 50 0 55 0	277 277 677	$\begin{array}{c} -25 & \text{fb} \\ -25 & 0 \\ -15 & 5 \\ -16 & 0 \\ -20 & 0 \\ -22 & 0 \\ -30 & 0 \\ -32 & 0 \\ -25 & 0 \\ -15 & 0 \\ \end{array}$	15 19 25 18-24 1 1 22 1	24 1 23 3 21 4 21 0 21 0 19 5 23 7 24 5 21 8	0 14 0 35 0 55 1 69 0 41 0 57 1 98		0 14 0 10 0 17 0 25 0 20 0 20 0 25 0 20 0 20	9 6 10 3 3 7 12 14	25 21 25 25 25 25 25 27	- · · 2		· · · · · · · · · · · · · · · · · · ·
Wetaskiwin The Red Deer River	52	58	113 23	2450	20 5	_	y	60 0	7	-15 0	24	24 3	⊍ 43		0.20	4	-1			
	52	24	113 10		15.5		,			-23 o	21	25.4	0.75	_	0.05		25			
Alix Clemens Delna Drdsbury Harmattan Hillsdown Lacombe (Ex. Farm) Red Deer Threshills Creek	51 51 52 52 52 52	35 40 45 14 58 16 30	112 25 114 8 114 23 113 29 113 44 113 49 113 11	3500 2506 2783	14 4 12 6 24 0 16 8 19 5 18 5		1 2 11 6 9 6	57 0 48 7 42 1 54 0 55 0 53 0 52 1	5 29 5-6 5	-23 0 -26 9 -16 5 -14 0 -27 0 -17 0 -23 6	20 19 25 23-25 19	21 3 19 1 23 - 25 2 21 9 24 6	9 92 9 63 1 00 1 37 1 23 0 81	-0 19 -0 19 	0.25 0.50 0.30 0.40 0.35 0.30 0.30	5344596	25 27 27 23 22 25			1
The Bow River																				
Brooke Calgary Cardaton (Glochen High River Lawrence (Parkland) Lethbridge Lethbridge (Exp. Farm   Macleod. Medicine Hat Okotoks Puncher Creek Strathmore. Sundial.	50 51 49 50 50 49 49 49 50	34 2 12 59 35 16 42 43 44 1	111 54 114 2 113 18 112 54 113 53 113 26 112 51 112 51 112 51 113 24 110 37 114 4	3389 2952 3394 2961 3128 2161 3750	22 3 20 0 20 0 15 4 18 8 21 3 23 4 14 5	- 0 5 - 4 4	29 14 10 7 6 15 29 1	36.0 54.0 56.0 60.0 59.9 57.0 55.8 61.8 62.0	9 8 5 8 1-1-	$\begin{array}{c} -13 & 0 \\ -15 & 0 \\ -16 & 5 \\ -24 & 0 \\ -23 & 0 \\ -21 & 0 \\ -17 & 0 \\ -23 & 0 \\ -22 & 7 \\ -17 & 5 \end{array}$	24-25 25-26 25-26 25 25 25 24 18	21 6 22,6 20 9 26 0 23 2 17 8 21 8 21 8 2 21 1 29 7	1 25 0 60 0 42 0 59 1 06 0 30 0 49	-0 24 	0 15  0 40 0 20 0 20 0 25 0 25 0 15	9	22 24 25 24 25 24 27 21 29 24			7
Rocky Mountains																				
Banff Blairmore	51 49	10 40	115 3 <b>4</b> 11 <b>4 3</b> 0	4542 4225	15.3	- 3.7	18	47.3	. 7	-31 9	20	22.4	1 42	-0 (6 	0 37	1 I	20	. !		
Athabasca River																				
Athabasea Landing Lunniord Pembina	54 54 54	43 33 12	113 17 114 19 114 0	1650	14 1 16 4 16 7	~	10 4 6	$\begin{array}{c} 46 \;\; 0 \\ 52 \;\; 0 \\ 49 \;\; 0 \end{array}$	31 27 29-30	$^{-30}_{-26} ^{0}_{2} \\ ^{-21}_{5}$	1 19 19	25 <b>4</b> 26 3 26 9	1 49 26 30	=	0 36 0 15 0 15	4 3	27 27 25			
Peace River																				
Beaver Lodge Dunvegan Fort Vermilion Fort Vermilion (2)	55 55 58	29 56 27	119 24 118 35 116 3	1305	15 9	-		46 0	6	-26 0 :	23	20.3	1 52	-	0 15	3	25			
Peace River Crossing Spirit River	5 A 5 S	15 46	117 I5 118 47	2400	15 6	··-	6	49 0	27	<b>-27</b> 0	18	24.7			_					

\*Stations not furnished with Registering Thermometers.

						- 5	Гемре	RATURE				Prec	IPITATIO	N.	more.			8	
STATION	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month.	Days with .01 or m	No. of fair days.	No. of Auroras.	No. of thunderstorms	No of fores
SASKATCHEWAN-																			
Qu'Appelle River	. ,	• ,																	
Brownhill (Grenfell P O.). Brownlee Buchanan Crescent Lake Estavan Fort Qu Appelle Hubbard (Drumague) Hubbard (Drumague) Hubbard (Drumague) Hubbard (Brumague) Hubbar	50 23 50 45 50 45 50 49 12 51 5 52 12 51 22 50 28 49 43 50 21 50 0 52 25 50 20 52 25 50 30 52 4 50 27 51 5 50 30 51 49 52 4 53 49 54 49 55 49 56 49 57 49 58 49 59 49 59 49 50 50 49 50 50 40 50  102 53 106 0 102 25 103 4 103 24 105 29 105 23 103 40 102 2 105 35 101 37 105 0 105	1957 1658 1858 1858 1924 2064 1759 1884 1870 1879 2115 1600 1885	8 8 8 1 4 4 1 1 5 5 5 11 1 1 4 1 1 8 2 9 8 4 5 5 7 15 7 11 1 0 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	- 4 8 - 5 4 - 0 7	11 8 10 2 7 2 21 4 18 7 2 2 15 29 27 4	42 0 51 0 50 0 39 0 44 0 45 0 40 0 53 0 45 0 47 0 46 0 46 0 47 0 42 0	31 29 31 31 29-31 31 29 31 31 29 31 8 7 31 31 31 29 31	-33 0 -32 7 -18 0 -34.5 -37 0 -21 0 -31 0 -32 0 -38 0 -24 0 -32 0 -30 0 -31 0 -25 0 -31 0	1 1 2 2 6 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1	22 6 	0 58 0 60 1 00 0 60 1 17 0 55 0 49 0 89 0 91 1 17 0 49 0 89 0 91 1 21 0 49	+0 3I1 52 -1 0 13 +0 02	0 16 0 15 0 30 0 30 0 20 0 20 0 50 0 63 0 47 0 30	8  10 9 6  2 9 4  5 6 3 5 8  7 4	28 	2			
S. Saskatchewan River																			
Chaplin East End (Divide) Kelvinhurst (Nashlyn) Larchmount (Glenbryan) Oliver Rathmullen Swift Current	50 26 49 31 51 46 49 21 49 54 51 20 50 20	106 39 108 49 108 10 109 29 107 27 108 57 107 45	2202	14 1 16 1 15 6	-3 6 - - - -2 2	27 4 3 	50 0 46 2 48 0 41 2 54 0	31 7 28 8 7	$\begin{array}{c} -27 & 0 \\ -23 & 6 \\ -34 & 0 \\ \hline -35 & 5 \\ -22 & 0 \\ \end{array}$	19 1 20 1	24 8 18 0 26.3  23.6 19 6	0 50 1 08 0 65 0 45 1 37	-0 20 - - +0 51	0 50 0 30	6 8 5  3 12	25 23 26  28 19			
N. Saskatchewau River		1																	
Battleford Lloydminster Luseland Onion Lake. Prince (Meota) Scott (Ex. Farm) St Walburg Waseca	52 41 53 18 52 5 53 52 51 0 51 59	108 20 109 30	1620 1700	16.7 13.9 11.1 11.2	+ 3 6	22 3 4 5	52 0 48 5 46 0 43 0	31 31 31 31 29	-28 0 -29 0 -35 6 -33 0	1 1 i	22 1 19 5 22 6 23 6	0 35 0 35 0 23 0 12	-0.36	0.30 0.15 0.10 0.05	3 3	28  28 28	1		
The Saskatchewan Forks																			
Chagoness (Star City) Duck Lake Melfort Prince Albert Rosthern Saskatoon	52 32 52 54 52 47 53 10 52 40 52 15	106 20 104 30 106 0 106 20	1432 1657 1571	5 8 9 2 4 2 8 4	$-\frac{3}{4}$ 1 $-\frac{1}{8}$ 8	4 27 3 15	45 0 49 5 41 1 41 0	28 8-31 8 31	-33 0 -34 0 -33 8 -32 3	1 1 1 1	28 9 28 3 25 5 23 4	0 65 1 20 0 35 0 25	+0 17	0 20 0 60 0 20 0 10	3 6 3 4	28 25 28 27	i		
Lower Saskatchewan River																ĺ			
Cumberland House Lost River	53 56 53 17	102 16 104 21		0 6		-	40,0	30	-36.0	1	26.3		<u> </u>		)"    • •	::	::	::	1:
Manitoba— Qui Appelle and Assiniboice Rivers Aweme (St. Albans) Boissavain. Brandon. Carberry Carman Cypres River. Minnedosn Minette. Ninga Pierson Pipestone Portage la Prairie Portage la Prairie Roure Source Treberne. Virilen. The Red River	49 42 50 25 49 51 49 51 49 33 49 55 50 15 49 24 49 11 49 34 49 56 50 59 49 36 49 56	99 57 99 20 98 0 98 0 100 33 99 50 99 38 99 51 101 5 100 58 98 17 101 20	1180 1703 1176 1258 872 1232 1400 1699 1531 1440	9 5 6 8 7 1 12 2 8 5 5 7 . 7 2 3 9 . 8 9 7 7	- 3 8   - 8 4   - 8 3   - 7 8   3   - 7 8   3   - 7 8   - 7 2   - 15 3   - 3 6   - 3 6   - 7   -		46 0 46 4 38 0 44 0 50 0 42 0 42 0 42 0 42 0 45 0	28-31 30 30 31 30-31 29 29 29 31	-29 0 -29 7 -32 0 -29 4 -25 0 -25 0 -27 0 -36 0 -23 0 -24 0	2 2 2 2 2 3 3 1 200 2 2	26.5 24.2 23.4 24.2 26.9 21.5 22.0 23.1 30.2 22.6	0.97 0 50 0 70 0 38 	+0 10 +0 36 -0 42 	0.30 0.30 0.16 	15 2 4 111	16 29  27 20  26  29 22 	1		
Alunsipi Morden Oak Bank Stony Mountain Winnipeg.	49 14 49 11 49 57 50 40 49 53	98 6 96 42 97 14	978 800 803 760	9 3 9 6 8 0 6 3 9.7	$ \begin{array}{r} -9.2 \\ -10.5 \\ -7.6 \\ -7.4 \\ -5.0 \end{array} $	11 18 18 31 39	45 0 47 0 44 7 41.0 46 4	31 30 31 31 31	-31 0 -25 0 -30 0 -34 0 -25 7	2 2 2 2 2 2	24 4 20 7 21 6 28 1 23 6	0 80 1.50 0.90 0 85 0.36	+0.05 +0.40 +0.37 -0.66 -0.89	0 30 0 50 0 40 0 10 0 16	4 4 4 10	27 27 27 27 27 21			

\*Stations not furnished with Registering Thermometers

								Темри	RATUR	Ε.			Fin	E: PITAT	10N.	e e				_
STATION		Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average	Yr's observations	Highest	Date	Lowest.	Date	Mean daily range	Amount.	Difference from average.	Heaviest fall in month.	Days with 01 or more	No of fair days	No of auroras	No. of thunderstorms	No. of fogs.
Manitoba—Continued			-			,	_									- 1	-	-	-	-
Dauphin Lake and River Dauphin Moose Horn Bay) Aitkens- ville) Berens River	51 51 51	8 15	99 33 97 23	957 710	7.4 - 2 9 - 2 3	_	3 5	48 0 42 0 38 5	29 30 31	-29 0 -35 0 -34 0	1 2 3	22 2 25 6 25 8	0.40 0.23 0.00	_	0 30 0 05 0 00	1 2 8 0	29 23 21	3		ļ · ·
Lake Winnipegosis Le Pas Swan River	52 53	6 49	101 15 101 15	1112 860	2 8	_	3	42 0	31	-3o 0	.1	26.8	v 06		0 03	3	28			
Ontario-	1																			
The Lake Superior Districts																				
Rainy River Keaora Thunder Bay	49		y 32	1102	11 1	— 7.3	14	49 0	30	-34 0	2	21.9	0.65	-0.37	0.40	3	28			
Kakabeka Falls Port Arthur Schreiber	48 48 45	20 27 50	89 26 89 12 87 15	912 644 933	9 2 14 3 12 8	$\frac{-48}{-42}$	5 33 13	45 0 49 0 40 5	$\frac{29}{29}$ 25-30	$-34 \ 0$ $-17 \ 0$ $-28 \ 0$	2 2 7	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2 85 1 22 5 30	+0.27	0,50 0-28 1-60	12 16 10	19 15 21	1	`i	
Algoma Bruce Mines Copper Chiff Porcupine Providence Bny Timmins (Sandy Falls) White River	46 46 45 48	18 30 40 35	83 55 80 59 82 14 85 16	595 1252	20 7 13 2 23 9	- 5 8 - - -	15 8 2 2	49 0 45 5 58 0 48 0	10 19 20 30	$\begin{array}{c} -28 & 0 \\ -23 & 0 \\ -29 & 0 \\ -22 & 0 \\ \end{array}$	7	21 2 24 3 17 1	2 90 2 97 3 48 4 00	- 11 39	1 59 0 69 0 70 1 20	14 19 6	24 17 12 25		2 1	
Nipissing Cochrane Haileybury Montreal River	49 47 47	2 29 8	51 0 79 39 79 29	946 687	19 6 18 4	— <u>0</u> 6	20 3	51 1 53 0	30 30	-20 6 -33 0	7	21 0 27 8	J 92 0 97	+0.67	0 46 0 30	is 7	13 24		 1	·· 2
Upper Ottawa River Rutherglen (Lake Tnlon) Stonecliff (Rockliffe)	46 46	15 9	74 48 78 6	557	23 0 23 8	$^{+}$ $^{1}$ $^{2}$ $^{+}$ $^{3}$ $^{7}$	18 36	56 U 57 U	24 19	-20 5 -23 0	7	19 9 25 0	1.68	-0 93 -1 17	0.50	8 13	23 18		2	1
Upper St. Lawrence and Lower Ottawa Rivers Almonte. Bloomfield. Hillier Kingston. Montague. North Gower Ottawa Renfrew.	45 43 44 44 45 45 45	12 59 13 56 8 26 26	76 13 77 21 76 29 75 57 75 43 75 42 76 39	300 260 285 294 416	27 5 30 2 29 9 	+ 0 5 + 2 2 + 0 7 + 4 9	1 14 39 3 30 24	64 2 61 0 56 8 60 0 61 0 64 3	21 22 21 20 21 21 21 21	$\begin{array}{c} -17 & 3 \\ -7 & 0 \\ -6 & 9 \\ -17 & 0 \\ -15 & 0 \\ -20 & 0 \\ \end{array}$	5 7 5–8 8	20 6 14 7 16 2 — 17 6 20 1	4 61 1 47 4 83 4 76 4 51 4 81	-3 39 +2 58 -7 +1 98 +1 79	0 95 1 09 1 42 1 95 0 85 1 00	12 11 16 11 15 12	19 20 15 20 1 <sub>6</sub>		1	1
Georgian Bay Counties Barrie Bentriee Coldwater Colling wood Gravenhurst Huntaville Midland Markdale Orillia Owen Sound Parry Sound Rhowille Shelbarne Uplands	44 45 44 44 44 44 44 45 44 45 44 45	23 8 38 31 54 19 44 37 34 19 15 48	79 41 79 20 79 40 80 2 79 20 79 8 79 53 79 24 80 55 80 0 78 55 80 47 79 25	839 800 600 750 775 597 635 1038	25 1  25 9 26 2 25 0 27 5 26 1 25 8	+ 2 8 + 2 2 + 4 4 + 2 7	38 42 6 6 21 36 6	57 0 56 0 55 0 60 0 63 0 56 0	24 24 11 13 24 14-24 24	-17 0 -23 0 -15 0 - 5 0 -16 0 -19 0 -18 0		19/8 23/2 17/5 19/0 19/7 20/1	4 93 4 15 2 87 4 77 2 16	+0 88 +1 04 - +1 03 +1 76	1 50 1 12 — 0,95 1 10 0 61	ie i6 10 16 16 10	19 		3 1 2 1 3 1	2
Lake Huron Counties Birnam Clinton Goderich Lucknow North Brace Point Clark *Sarnia Southampton	43 43 43 44 44 42 44	2 32 45 56 23 5 59 30	81 55 81 37 81 41 81 30 81 25 81 44 82 24 81 21	908 595 586 656	31 8 28 6 29 1 27 5	+ 5 0 + 2 6 + 2 1 - 0 4	28 10 23 28 	65 4 63 0 65 0 61 \$	14   15-25   15   14   20	-10 4 - 9 0 - 2 0 - 9 1 	7 5 5 5	16 2 18 4 15 8 15 6	4 78 2 77	+2 97 +2 12 +0 19 +1 09	1 45 1 36 0.88 0 58	12 18 16 18	19 13 15 13		3 2 2	
Lakes St. Clair & Frie, Nagara Peninsula Chatham Outnom, Grimaby Peles Island Port Burwell, Fort Burwell, St. Catharines, Stoney Creek Wallaceburg Welland Wlador.	42 43 41 42 42 43 43 42 42 42	23 7 13 50 39 27 40 9 13 35 59 20	82 12 82 45 71 36 82 35 80 55 80 18 81 12 79 17 79 45 82 24 79 17 83 4	595 608 585 592 635 592 347 292	34 8 32 3 31 8 34 9 29 4 30 0 30 4 33 2 33 0 34 1	+ 1 9	26 25 1 4 . 9 38 39 29 27	78 0 78 0 65 0 70 0 56 0 59 5 50 2 67 0 66 0 68 0	14 20 14 14 14 13-14 14 14 13-14 13-14	$\begin{array}{c} -1 & 0 \\ -8 & 0 \\ -6 & 0 \\ 2 & 0 \\ -6 & 0 \\ -4 & 5 \\ -6 & 1 \\ -3 & 0 \\ -7 & 0 \\ 4 & 0 \\ \end{array}$	3 7 6 7 7 8 7 8 7 8 7 8	18 3 23 4 21 8 18 9 15 0 16 5 17 4 20 5 18 7	1 65 1 68 1 37 6 00 1 58 1 94	+1 49 +3 83 - +4 55 +3 14 +0 57 +1 62	0 72 3 05 1 75 1 65 1 29 1 77 1 05 1 65 1 00	10 10 11 13 10 19 18 12 13 14	21 21 20 18 21 12 13 19 18		2 2 2 1	

\* Stations not furnished with Registering Thermometers.

				1	<b>a</b>				ТЕМІ	ERATU	RE		-	Prec	CIPITAT	10N	ore.			ą.	
STATION		Latitude N.	P. C	Longitude m.	Elevation above sea level in feet.	Mean.	Difference from average.	Yr's Observations	Highest.	Date.	Lowest.	Date	Mean daily range.	Amount	Difference from Average.	Heavest fall in montb.	Days with 01 or more.	No. of fair days.	No. of auroras.	No. of thunderstorms.	No. of fogs.
ONTARIO-Continued-				_	-												1	, –	_	_	_
West-Central Counties																					
Alton Brantford Elora Guelph Listowel London Paris Stratford Woodstock	43 43 43 43 43 43 43	41 33 59 12 23	80 80 80 80 81 81 80 81	5 21 24 16 13 25 0 47	1250 750 1274 1050 ** 808 840 1191 980	25 9 32 7 28 0 31 2 27 4 31 9 32 3 31 0	+ 0 8 + 5 0 + 3 6 + 4 9 + 6 0 + 2 0 + 2 4 + 2 6	27 33 17 25 15 30 24	61 2 70 0 64 0 66 0 62 0 67 0 70 0	21 14 14 14 14 14-21 14 14	$\begin{array}{c} -14 & 9 \\ -5 & 0 \\ -10 & 0 \\ -2 & 0 \\ -11 & 0 \\ -6 & 5 \\ -8 & 0 \\ -5 & 2 \end{array}$	7 6 8 7-8 4 7 8	22 0 19 7 17 5 20 0 20 2 21 0 21 6	4 66 4 17 4 62 1 75 5 64 5 81 6 14 4 07	+2 71 +2 43 +3 01 +0 08 - +2 99 +3 62 +2 14	0 50 2 56 1 34 1 60	11 9 14 9 11 19 14	20 22 17 22 20 12 17		2 2 2  1 1	2
Lake Ontario Counties																					
Agincourt Aurora Hamilton Oshawa Toronto Toronto Is (Lakende Home) Uxbridge Wexford	43 43 43 43 43 44 43	57 16 53 40 40 5	79 79 78 78 79 79 79	16 24 54 52 24 24 17	590 886 303 331 350 886 555	30 1 27 2 33 0 30 7 33 3 32 3 24 3 29 1	+ 2 2 + 2 8 + 3 1	19 5 38 4 72 7 9	63 4 61 0 67 0 62 0 64 2 60 0 61 0 59 0	$\begin{array}{c} 20 \\ 24 \\ 20 \\ 15 \\ 24 \\ 20 \\ 14-24 \\ 24 \end{array}$	$\begin{array}{rrrr} - 6 & 0 \\ - 8 & 5 \\ - 1 & 0 \\ - 7 & 0 \\ - 1 & 0 \\ - 3 & 0 \\ - 9 & 0 \\ - 8 & 0 \end{array}$	767777777777777777777777777777777777777	16 5 18 4 15 9 16 3 17 2 16 2 15 7 16 3	3 57 4 50 0 75 3 05 4 08 - 3 45 3 57	+1 31 -2.35 +1.88	0 77 1 36 0 30 1 33 0 98 0 80 0 86	18 9 4 7 18 12 10	13 22 27 24 13 — 19 21		1  2  1	2
East-Central Counties																					
Bancroft Haliburton Kumoant Lakelield Landsay Madoc Norwood Peterboro' Ursa	45 45 44 44 44 44 44	45 25 20 30	77 18 78 78 77 77 78	50 28 38 15 45 29	1050 920 850 872 575 722	24 7 25 4 22 3 28 3 27 7 27.1 29 4	$\begin{array}{c} + & 3 & 0 \\ + & 0 & 7 \\ - & 0 & 5 \\ + & 3 & 5 \\ \hline - & & \\ + & 3 & 9 \end{array}$	24 24 14 34 9 1	57 0 58 0 58 0 60 6 61 0 64 0 63 0	24 24 24 24 21 14	-21 0 -19 0 -26 0 -10 5 -15 0 -14 0 -10 0	4 5 4 7 8 2 7–8	22 7 24 9 24 2 19 6 18 0 20 9 19 8	3 67 3 35 4 82 2 97 2 59	+1.54 +0.98 -0.01	1 12 0 80 0 90 0 95 0 86	14 13 15 9 7	17 18 16 22 24		4	3
Qпенес-																					
Middle St, Lawrence																					
Brome Cap Rouge Cedurs D'Israeli River Desert (Bork Linke) Montreal. Quebec Ste. Anne de Bellevue Shawnigan Falls Sherbrooke	45 45 45 45 46 45 46 45	16 55 30 48 27	72 71 71 73 71 73 72 72	36 18 21 35 13 59 43 5	678 896 187 296	29 0 21 9 25 6 23 0 28 6 25 6 26 6 18 3	+ 5 3 - - + 2 7 + 2.6	32 2 1  1 .35 38 6 10	63 0 52 0 66 0 62 3 56 5 61 8 50 0	21 22-25 23 24 21 21 21 20-31	$\begin{array}{c} -10 \ 0 \\ -14 \ 9 \\ -5 \ 0 \\ \end{array}$ $\begin{array}{c} -24 \ 0 \\ -4 \ 6 \\ -12 \ 2 \\ -8 \ 0 \\ -29 \ 0 \\ \end{array}$	8 8-9 4 7 7 8 8 8 8	17 0 17 6 18 7 29 3 15 1 15 4 15 2 22 2	5 81 5 10 3 54 3 26 6 45 5 48 3 74 4 10	+3 99 - - +2 54 +2 22 -	1 25 0 71 0 58 1 36 1 10 0 82 0 85 0 60	10 18 12 17 21 13 13	21 13 19 19 14 10 18 18		i :: :: 2 2	4 2
Lower St. Lawrence & Gulf					1																
*Anticosti, E. Pt. Anticosti, S.W. Pt *Anticosti, W. Pt *Brequet *Cape Chatte *Cape Magdulen Father Point Ste Anne de la Pocatiere	49 48 49 49 48 47	52 25 6 16	61 64 68 66 65 68 70	42 32 53 45 20 19	30 30 93 20 65	23 6 21 9 25 6 23 7 24 8 26 0 23 8	+ 3 4 + 0 3 + 0 2 + 2 8 + 3 9	28 33 32 30 31 36	37.0 39.0 50.0 48.0 52.0 58.0 61.0	22 30 31 24 31 22 21	$\begin{array}{c} -50 \\ 00 \\ 00 \\ 50 \\ -20 \\ -60 \end{array}$	8 8 8 4-8 5-8 8		2 68 3 11 2 80 1 65 1 99 2 53 4 17	-1 91 -1 91 -0 36	0 65 0 40 0 80 0 60 0 50 0 50 0 70	8 15 10 6 11 19	23 16 21 25 20 12 19			7 1 3 3 2
Lake St. John													- 1								
Chicoutimi Chicoutimi (2) Lake Edward La Tuque Mistassini Roberval	48 47 48 48	25 39 27 54 31	71 72 72 72 72 72	5 48 15 13	150 1333 520 360 352	21 4 19 3  14 9	=======================================	34 3 3 2	54 0 52 6 49 0	22 21 22	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	- 4 7	9 1 24 5 24 6	2 61 3 01 3 18	-0 57 =	0 80 0 70 1 21	14 11 15	17 20 16	··· ··· ··· 2	1 1 1 	3
The Northwestern Districts																					
Abitibi Manouan Crossing Weymontachingue (Dam A) White Shore Lnke	48 47 48		79 73 75	22 60 43		14 9  15 7	0 0	34  2	47 0  53 5	30	-87 0 : · · · · -36 0	 4	22 2	2.60	-0 58 	0.70	10	20  22	  i	  i	  i
The North Shore													1								
Clarke City .	50	10	66	25																	
NEW BRUNSWICK— Chatham Dalhousse, Fredericton Moneton Point Lepreaux St. John St. Stephen Susser Williamsburg	47 48 45 46 45 45 45	9	65 66 64 66 66 67 65	29 22 36 45 28 4 16 38	21 39 164 50 30 70 35 96	28 8 22 7 30 3 31 5 32 6 33 0 31 9 32 6 25 9	+ 3 4 + 1 5 + 4 3 + 2 9 + 3 9 + 2 5 + 3 5 + 5 9	39 32 41 16 35 40 16 16	64 0 48 0 60 0 66 0 43 0 52.3 58.0 63 0 54 0	21 21 21 31 15-31 31 19-25 21 20	-11 5 -13 0 - 9 0 - 6 0 3 0 - 4 8 -20 0 -10 0 -13 0	8 5 8 7 8 8 8 8	20 0 17.3 18 0 21 3 12.9 18 6 18 3 17 2	4 45 2 10 6 00 5 60 5 25 7 60 3 87 7 26 6 05	$\begin{array}{c} +1 & 32 \\ -0 & 79 \\ +1 & 94 \\ +3 & 39 \\ +0 & 87 \\ +3 & 53 \\ -0 & 06 \\ +2 & 98 \end{array}$	0 87 0 90 1 04 1 30 1 77 1 15 1 30 1 95 1 50	18 6 18 11 10 19 11 7	13 25 13 20 21 12 20 24 17		i i i	2 3 10 3 4

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MARCH, 1913.

\*Stations not furnished with Registering Thermometers

					Bea				ТЕМР	EBATT	RE			PRE	IPITAT	ION	more			eu.	
STATION	   Latitude		Longitude		Elevation above se level, in feet	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range	Amount	Difference from	Heavest fall in   month	Days with 01 or me	No of fair days	No. of Auroras	No of thunderstorms	No. of fegs
NOVA SCOTIA-	۰	,		,																	
Advocate Antigonish Halifa Halifa Halifa Mergonish New Germany Parrisboro' Port Hastinge Sable Island, E Pt Sable Island (Maia Station) Sydoey Whitelbead Windsor Wolfville Yarmouth	45 44 45 45 43 43 46 45 45 45 45 45 45	35 39 33 39 55 57 10 22 15 59 7	61 63 64 61 59 60 60	19 22 46 6 10 18 8 6 6 20 2	50 88 40 45 25 25 25 27 20 90	32 4 33 1 35 2 31 8 34 6 25 2 35 9 34 5 32 4 33 9 31 5 34 9 34 6	- 2.7 + 3 7 - 2.7 + 5 1 + 0 9 + 3 9 + 3 1 + 6 4 + 4 9 + 3 9	1 3 39 2 1 16 22 30 23 39 39 31 10 12 32	60 0 69 0 69 7 63 0 68 0 46.0 47 0 58 5 62 8 43 0 69 5 2	29-31 22 21 21 21 21 26 31 21-22 20 22 20 22 20-21 20	$\begin{array}{c} 5 & 0 \\ -5 & 0 \\ 2 & 9 \\ -1 & 0 \\ \hline 5 & 0 \\ 20 & 0 \\ 18.0 \\ 2 & 5 \\ -1 & 0 \\ 9 & 0 \\ 4 & 0 \\ 2 & 5 \\ 8 & 0 \\ \end{array}$	4989 8 488588888	17 5 21 0 17 0 17 5 16 1 9 7 	7 28 6 57 3 65 7 03 3 00 2 71 3 93 4 69 6 15 3 66 5 20 5 79	$\begin{array}{c} -\\ -\\ +1 & 23 \\ -\\ -\\ -\\ -\\ -\\ -0 & 07 \\ -2 & 34 \\ -0 & 07 \\ +2 & 34 \\ -0 & 26 \\ +1 & 56 \\ +1 & 12 \\ +0 & .79 \\ \end{array}$	1 84 1 08 0.90 1 72 1 35 1 00 0.64 0 56 1 03 0 91 0 82 1 07	10 21 16 11 4 9 17 18 22 9 14 19	21 10 15 20 27 22 14 13 9 22 17 12		11 11 11	5 : : : 13 10 10
P. E. ISLAND-						01.0			- 1 0		0				10.00	0.00	17	14			
Charlottetown (Exp. Farm) Hamilton	46	14 14 25		10 7 48	38 75	31 0 30 8 29 2	+ 3 9	38 3 15	54 0 60 0 56 0	21 21 22	- 2 0 - 4 0 - 5 0	8	14 9 16 6 12 7	5 13 4 66 4 02	+2 03	0 62 0 64 1 50	17	14 23			4
Newfoundland  *Amour Point Burio.  *Cape Normao. Fogo.  *Point Riche Port aux Basques St. George's St. Joho's	47 51 49 50	25 0 38 43 42 35	57 59	51 10 52 17 25 10	27 30 35 27	30 1 7 5 19 5 25 5 25 9 30 0	_ _ _ 0 5	5 	48 0 24 0 39 0 43 5 50 0 60 0	17-31 31 16 25 16 28	$ \begin{array}{rrrr} 10 & 0 \\ - & 9 & 0 \end{array} $ $ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	5 · 5 3 26 9 5 5	18-2 - 12 4 22 4 14 0	6 50 1 90 1 55 8 08 5 34 5 04	+n 34	1 02 0 60 0 60 1 95 0 70 1 00	20 6  7 25 24 16	11 25 24 6 7			4 5 2
LABRADOR— North West River BREMUOA— Prospect	32	17	64	46	151	65 S	+ 2 7	2 2	73 8	28	52 6	9	9.4	3 34	_1 71	0 86	11	20	<u> </u>		

STATIONS	Amount	No of	No. of	Henviest		Amount		FALL. Heaviest		REMARK
313110.33	in inches	Daya .01 or over.	Fair Days.	Fall in Month.	Date.	in inches.	No of Days	Fall in Month	Date	,,,,,,,,,,,
TIBH COLUMBIA -	0 02	1	29	0.02	4	3 5	1	3 5	17	
kali Lake mis (Canos Point)	0 17	4	22	0 07	5	5.1	5	15	2-16	
esver Lake	2 23 7 86	9	22	0 50	29			11 6 2		
oquitlam ariboo Road No 141 enman's Island		7	21	1 72	29	2 3	3	1 3	18	
enman's Island	1 64	8	23	0.79	27	46 5		12 0	16	
rguson oldstream Lake	4.68	11	19	1 22	29	2.5	ĭ	2.5	19	
ydraulic ornby Island	2 09	5	25	0 97	28	19 8	1	8 0 1 1	16 23	
vermere	4 69	18	. 9	0.89	16	3 5	1	3 5 1 5	18 19	
rdan River (Bear Creek).	8 07 1 80	12 8	15 23	2,35 0 50	17 27	11 0	- 4	4 0	29	
ittle Qualicum umby onte Creek	0 03	i	25	0 03	5	5.0	5	2 9	3	
onte Creek ass Harbour .	7 52	9	19	1 26	30	11 0	. 3	5.8	26	
ock Creek	0 22 2 52	13	27 16	0 16 0 66	12 29	1 5 1 5	2 2	1.0	15	
nawnigan Lake ychffe	1.87	5	24	0 40	16-23	24 0	$\tilde{2}$	18 0	iĩ	
DRTA-						2.0	2	0.0	,-	
rdo smark						3 5 7 3	3	2 0 6 0	17	
uederheun		J				5.8	. 7	2 0	16	
ittern Lake rooks						8.0	7	2 0	17	
eaver Mines			- :.			43 1 24 5	9	21.0 11.0	18	
owley aldwell	0 01	. 1	22	0.01	28	17 7 27 7 7 9	10	7 0 4 8	18	
aresholm						7.9	4 2	4 0	18	
orenlee (Bashaw). unstable (Five Lakes)	0.07	1	21	0 07	÷'''	6 0 3 1	9	4 0 1 0	19 17	
rassy Lake imping Pound	0.04	2	26	0 02	2-8	6.8	3	4.0	18	•
och Sioy -						14 3	3	6.5	18	
endon . neham .					1 .	21 7	3	13 5	18	
n Pearl ethbridge						5 4	ż	4 0	13	
Beleod .						11.2 13.2	10	4 0 5.1	11-17	
ayeroft ountain View						16 0	2	9.0	19	
ateby auton						6.0	4	2.0	11-18	
kotoks						15.0		4 0	17	
skisko onoka .						12.5	7	3 0	16-18	
on oven Persons						5.0	3	2 3	11	
lley . riting-on-Stone (Coutts)						5.5	4	2 6	12	
aterton Mills						43 3	6	28 5	iŝ	
BATCHEWAN— berfeldy										
all Luka						10 6 6 7	7 8	4 0 2 0	7 19	
all Lake (Fks. Swift Cur.)										
nple Creek							100			
adow Lake ishlyn (Kelvinhurst) llow Creek (Battle Cr.)						13 3		4.5	18	
ITOBA —						7.5		2.0		
rtwright									18	
eloraine orquay (Swan Lake) apid City.						6 8 7.2	7	. 3 0	8-18 8	
ose Bank.										
antford(Bow Park Farm)	3 11	9	15	1 50	24	13 9	7	5.8	3	
narlion eer Park	2 25	10	17	0 64	25	10.0	4	5,0	27	
itton .	4 67 3 02	5 8	21 14	1 75 1 02	24 24	9 0 8.0	5	2 0 3 0	3-27	
nsdale ort Frances						22.9	7	8 1	20	
eorgetown rantham	3 18 3 71	10 8	13 18	0 89 1 25	24 25	9 9 4 1	8 5	4 0 2.5	3	
and Valley	3 65 4 15	10	18 24	1 16 1 20	24 13	6.5	3	2.5 6 0	1 3	
ncCue inceton	4 10				-					
enfrew denham	4 30	4	23	2 00	27	6.5	4	3.0	2	
rathroy.	3 28 4 07	. 4	20 25	1 47	24 25	24 0	7	6.0	6	
estport	4 60	4	18 24	2.50 2.62	27 26	16 5	9	6.0	9	
estminster ooler	4 51	4	24	2 62	26	11 0	3	5.0	27	
alev	1.30		21	1 01	24	11.5	6	3.0	8	
ottonwyl	1 62	5	21	0 55	31	17 0	5	8 0	4	
arton										
arton				*					1	
attenwyliartonia	.:					P. C. L. 21		6.0	28	
attenwyl	2 17	4	21	1 10	31	19 5			7.0	
attenwyl	0.54	4 2	21 26 20	1 10 0 34 0 72	31	7 3	3	4 3	18	
attenwyl	0 54 1 86	4 2 5	21 26 20	0 34 0 72	31 31	7 3 8 3	3 6	4 3 2 8	18	
attenwyl	0.54	4 2	21 26	1 10 0 34 0 72 0 20	31	7 3	3	4 3	18	
attenwyl	0 54 1 86 0 77	4 2 5 5	21 26 20 21	0 34 0 72 0 20	31 31 21-27	7 3 8 3 22 7	3 6 5	4 3 2 8 8 2	18 8 7	
attenwyl	0 54 1 86 0 77	4 2 5 5	21 26 20 21	0 34 0 72 0 20	31 31 21-27	7 3 8 3 22 7 22.0	3 6 5	4 3 2 8 8 2	18 8 7	
attenwyl	0 54 1 86 0 77 6 24 9 60	4 2 5 5	21 26 20 21 21	0 34 0 72 0 20	31 31 21-27 27 16	7 3 8 3 22 7 22.0 5.8	3 6 5	4 3 2 8 8 2 6.0 3 3	18 8 7	
ttenwyl	0 54 1 86 0 77	4 2 5 5	21 26 20 21	0 34 0 72 0 20	31 31 21-27	7 3 8 3 22 7 22.0	3 6 5	4 3 2 8 8 2	18 8 7	

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF MARCH, 1912

a Barometer not reduced to sea level

				g		P	RESS	TRE		_	nidity.	cloud	completely			Du	E: TIE	N OF	W 18	D FR	ом			V	WIND	) <b>,</b>
STATION	2	Taurone in	Longitude W	Elevation above sea level, in fect.	Moan reduced		Highest.	Lonest.	- -	Kange.	Mean relative humidity	n amount of	No. of days comp	z	NE	E.	SE	vi	N.W	W.	N.W.	C.	l Total number of observations	Mean miles per hour	Maximum velocity.	Date and direc- tion from.
BRITISH COLUMBIA— Atlin Barkerville Kamioops a Nanaimo Prince Rupert Triangle Island	53 50 49 54 50	52 13	33 38 21 35 20 29 23 37 30 18 29 5	2240 4180 1245 125 170 680	29 30 29	$\begin{array}{cccc} 97 & 30 \\ 04 & 30 \\ 28 & 30 \end{array}$	0 40 0 47 0 41	29 ( 29 ( 29 ( 29 ( 29 ( 25 (	23 1 50 0 15 0	72 17 97 96 45	- - - - - 83	6 5 6 7	14 12 6 8 20	2 2 0 1	2 1 2 1 0	1 10 1 21	5 2 0 17 5	22 0 7 0 4	1 11 6 1	2 0 24 3 2	3 0 0 17 1	18 45 11 22 27	62 62 62 62 62			
aTranquille	50 49 48	41 1: 17 1: 24 1:	20 29 23 5 23 19	136 85	30 30	09 3	) 53 0 54	29 ( 29 (	62 0 61 0	91 93	78 82	6 6	12	0 10	13	23 1	12	3 10	11	5 10	5 2	4 0	62 62	8 2	40	29.SW
YUKON— Dawson	64	4 13	39-20	1200											٠.											
ALBERTA— Bauff Colgry Edmonton Medicine Hat		2 1 33 1	15 34 14 2 13 30 10 37	4542 3389 2158 2161	30 30 30 30 30	06 3 02 3 03 3 03 3	0 51 0 41 0 49 0 53	29 29 29 29 29	29 1 25 1 12 1 33 1	22 16 37 20	65 82 68 82	6 4 5 7	67.8	2 5 5 4	8 9 11 3	2 2 3	1 6 4	0 3 3 5	31 3 12 47	2 3 13 17	23 8 7	16 7 2 4	62 62 62 93	5.7 6.3	22 ; 22 ;	30 N W 30 N W
SASKATCHEWAN— Battleford Moose Jaw Prince Albert Qu'Appelle Swift Current	52 50 53 50 50	30.1	08 20 05 35 06 0 03 47 07 45	1620 1759 1432 2115 2439	.30.	04 3	0.56	29 3	30.1	26	97 91 84 78	4 -4 -7 -4 -6	12 7 7 7 7	3 17 7 10 2	5 3 5 12	4 3 4 0	1.2 3 2 4 3	3 0 5 2 6	5 7 8 16 29	12 17 8 7	26 14 4 14 16	23 22 22 22	93 93 62 62 93	6 1	26	28 N W
MANITOBA—  a Aweme (St. Alban's)  Minnedosa  Le Pas  Wionipeg	49 50 53 49	42 9 15 9 49 1 53 9	9 50 01 15	1699	30	08 3 11 3 09 3	0.47 0.71 0.47	29 29 29	34 1 31 1 36 1	13 40 11	95 98 92	5 4	7 4 5	6 7 20	11 5 4	14 3 4	1 7 8	1 4 10	7 12 14	16 10 12	24 13 19	13 1 2	93 62 93	6 0 11 8	32	: enw
ONTARIO- Cochrane. Guelph Dury Guelph Dury Kingston Loudon a Lindsay Ottawa Parry Sound Port Arthur Port Stanley Southampton Stoneeliff Toronto White River Woodstock	.48	2 8 33 8 29 7 7 13 7 7 59 8 8 20 7 8 40 8 30 8 9 7 8 40 7 8 35 8 8	9 16 9 39 6 29 1 13 8 45 5 42 9 12 1 13 1 21 8 6 9 24 5 16	687 285 808 872 294 635 644 592 656 557 350	29 29 29 30, 29 30, 30 29 30 30	05 3 99 3 02 2 00 3 99 3 01 3 05 3 98 3 02 3 04 3	0 75 0 65 9 55 0 69 0 69 0 69 0 67 0 70	29 29 28 29 29 29 29 29 29 29 29 29	56 1. 32 1 38 1 32 1 21 1 37 1 41 1 55 1 43 1 36 1	19 33 17 37 45 10 28 61 49 34	86 82 83 85 84 83 72 85 95 78	7 8 6 6 7 7 6 6 7 5 6 7	19 15 13 12 12 12 11 11 14 0 12	10 10 10 9 1 1 28 1 5 0 5	3 2 13 10 5 2 5 2 8 4 0 7	1 0 1 3 3 11 2 9 12 13 8 8	5 3 12 29 8 4 14 0 12 15 3 1	2 14 7 0 22 2 6 12 0 19 2 3	21 7 9 11 22 18 16 0 23 25 0 9	2 6 14 3 5 19 3 15 12 4 24 16	20 12 5 37 15 5 10 25 20 16 0 12	3 8 0 0 4 0 5 2 2 4 30 1		11 8 5 1 16 0 13 0	52 52 52 48	18SW 24 N W 21W 21W 21S W
QUEBEC— Father Point Montreal Quebec Sherbrooke	48 45 46 45	31 61 30 7: 48 7 32 7:	8 19 3 35 1 13 2 5	20 187 296 620	30	01 3 00 3	0.72	29 29 29	26 1 25 1	46 43	86 71 81	5 5 7	15 11 16	2 4 2	4 7 24	15 3 2	5 2 1	30 1	27 16 31	15 27 31	14 4 1	1 0 0	93 93 93	19 0 14 4	60	28W 28W
New Brunswick— Chatham Fredericton St. John	47 45 45	3 6 57 6 17 6	8 36	21 164 70	30	05 3	0.84	29 29 29	14.1	58 70 65	82 84 81	6, 6	11 11 15	2 3	2 6 3	10 5 4	4 11 11	2 11 13	32 24 30	34 23 5	9 9 21	0 2 3	93 93 93	9 9 15 1	36 40	s N W
Nova Scotia— Halifax	44 43 46 45 43	39 6: 57 6: 10 6: 7 6: 50 6:	9 6 9 10 4 20	88 25 35	30 130 30	18 3 10 3 07 3	0.81 0.69 0.83	29 3 29 3 29 3 29 3	32 <b>1</b> 34 <b>1</b> 39 <b>1</b>	49 59 35 44 71	80 82 84	6	11 12 15 12 15	9 4 1 0 6	5 1 5 7 3	3 2 2 3	2 2 4 6	11 3 6 13	37 44 13 11	14 12 7 26	15 17 20 3	0 6 1 12	62 93 93 62 62	15 5 16 8 14 6 14 9	45 2 41 3	ISE ISE ISE
P. E. Island Charlottetown	46	14 6	3 10	38	39	06 3	0 79	29.1	28 1	51	83	7	12	0	3	1	3,	10	15	9	11	10	62	9 9	36 7	sw
NewFoundLand Buria Fogo Port aux Basques St. George's St. Joha's	48	0 5 43 5 35 5 27 5 34 5	4 17 9 10 8 31	27 30 27 21 125	30 30	04 3 00 3	0 57 0 55	29.3 29.1 29.0 29.1	17 1	40 47	  83 68	- 9 8 7	6 21 17 11	4 2 2 2 2	0 4 0 3	2 23 14 1	9) 0, 3 8	3 2 3 2	16 % 16 30	16 15 12 6	18 7 12 10	0 1 0 0	62 62 62 62			
BERMUDA Prospect	32	17 6	4 46	151	30.	37.3	0.61	29.9	4 0	67	86	6	6	5	11	13	9	Div.	17	1	3	0	93			

# FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF MARCH, 1913

		DIR	ECTIC	ON O	F WI	ND F	ROM		
z	N.E	Ë	SE	ŵ	S.W.	<i>\</i> 1	N.W.	c.	Total num- ber of Obser-
0	4 2	3 4	0 3	0 5	4 0	9 5	11 12	0	31 31
6 0 4 12	6 4 1	1 0 1 2	2 4 18 0	9 9 0 7	22 14 15 0	8 0 15 29	8 25 15 3	0 4 0 8	62 62 62 62 62
9	3	6	4	9	12	15	24	11	93
5 2 3 1	9 4 2 4 7 13	1 2 3 6 1 3	3 0 3 9 3	0 8 5 4 4 8	11 7 5 22 23	7 17 3 25 5 12	11 9 4 13 15	0 1 0 8 0 4	31 62 31 62 62 93
5	5	2	2	7	17	14	10	0	62
0	7 2	0	5 2	0	3	3 10	13 13	0	31 31
4	0 24 3 11 4 0	5 2 8 1 0 0	5 2 4 6 3 2 3	25 1 0 7 2 5 8	3 23 28 4 7 10 7	7 7 7 3 16 10	10 12 39 12 10 12 10	0 17 0 6 2 2	62 93 93 62 62 62 62
3 7 0 18 0 9	6 1 4 1 2 3 5	14 7 0 3 6 2 6 3	3 5 6 6 2 7 20 8	1 33 22 15 25 9 15 22	34 10 11 9 5 12 10 22	17 27 7 5 12 12 18 5	16 4 21 12 10 0 7 15	1 0 22 1 0 0 14 4	93 93 93 62 62 62 93 93
1	0	1	1	13	9	6	0	0	31
7 6 1	4 2 9	6 4 13	10 2 1	19 2 0	6 2 36	8 9 22	2 4 11	0 0	62 31 93
1	0	1	4	i	5	5	8	6	31
3 5 1 6	7 3 4 21 0 1 6 10 39	12 17 9 2 6 22 6 0	3 6 1 1 0 0 9 0 9	27 23 2 22 35 0 13 0	2 3 28 21 11 8 5 0 5	20 10 7 9 37 35 2 0	4 19 26 11 1 0 38 15 24	0 0 10 2 0 22 13 0 16	93 93 93 93 93 93 93 93 93
	0 4 1 1	9 0 12 0	6 2 0 1	0 6 3 1	0 2 11 6	10 4 29 3	0 11 16 5	0 1 0 14	30 31 78 31
1	1	1	3	4	11	7	3	0	31
		0	10	0	16	0	2		29
	0 0 0 1 4 1 2 1 2 1 8 1 2 1 6 6 1 1 1 8 1 2 6 6 0 0 1 1 1 1 8 1 2 6 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0					2		

# MEAN PROPORTION OF PRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF MARCH 1913.

					=									-				
									Hot	rs Ent	180							
STATION.	4 a m.	5 a m.	6 a m.	7 a m.	8 a H	gam.	10 a m.	Пат.	Noon.	I p m.	E b E	E P E	4 p m.	E d 2	6 р.т.	7 pm.	K p m.	m d 6
Victoria					11	25	37	38	47	53	51	ân	40	32			-	
Salmon Arm				.02	28	46	54	52	52	57	58	54	39	23	01			
Vancouver				07	20	27	35	37	42	44	47	51	43	39	.12			
A gassiz				.01	17	35	39	40	41	39	42	40	34	17				
Tranquilla																		
Summerland				10	29	47	55	65	64	61	57	40	47	31	05			
Kamloops					24	49	56	61	70	67	63	69	46	.20				
Harper's Ranch					2.5	52	45	53	57	54	54	4 ~	27	. (12				
Edmonton				T	17	41	58	54	56	52	54	5.5	53	17				
Letbbridge				.06	37	55	64	66	5.5	55	51	52	47	19	.01			
acomba				02	21	50	60	63	63	62	53	19	52	22				
dedicine Hat																		
Fort Dunvegan.					02	31	47	51	42	41	42	46	33	.(3				
ort Vermilion																		
Battleford					09	39	55	58	65	74	68	67	69	34				
ndian Head					03	18	44	51	54	47	54	50	50	.16	02			
Ioosejaw																		
cott				.15	37	52	60	70	63	b1	66	60	24	01				
Rosthern					13	41	57	63	67	58	63	6.4	59	33				
Brandon					20	45	55	62	67	66	62	57	41	()5	02			
Vinnipeg					06	35	56	60	62	61	57	56	47	34	01			
Haileybury				.06	23	27	33	46	46	40	32	34	26	. 20	03			
Voodstock					01	26	38	47	47	49	49	48	41	09				
indsay						12	27	37	39	46	42	43	34	11				
Barrie																		
Coronto					11	32	42	40	51	46	40	51	51	.33	07			
Kingston				01	06	18	27	27	34	40	40	34	26	07				
)ttawa				91	19	34	37	38	35	39	38	41	37	24	.03			
fontreal				01	21	36	41	38	40	37	.39	35	34	21	01			
Cap Rouge					03	15	23	33	34	31	29	25	15	07				
Quebec					11	25	32	37	36	38	38	34	25	10				
ite Anne de la Pocatiere			0 1	24	41	43	40	43	47	45	39	24	12					
herbrooke																		
redericton				. 06	38	39	43	42	44	43	38	37	37	32	07			
Charlottetown					06	30	47	52	49	54	53	.47	33	12				
Nappan				Т	17	37	50	58	61	64	57	46	37	23	26			
Wolfville				02	.26	.48	.58	.56	.57	54	54	45	45	27	06			

	Registered duration in hours	Percentage of poe-	Difference from average	Maximum percent-	Date of maximum	Number of days completely cloud-
Victoria	1 2	33	- <del>.</del>	4	31	
may noming	=	39	÷	85		- 9
Увасои ует.	1.921	33	Į.	65	21	r.
Allungari		23	e i	 	-: -:-	:
Tranquille.	_ <u>~</u>			-		•
Kambona.	5 2	- 3			10	10
Harper's Ranch	- 13	=======================================		-1	20	10
Edmonton	14	35 3		-1-	35	
I.ethbridge.	141 157	38.	_ 1	8 192	6	ei.
Lacombe.	154	-27		83	5	
Medicine Hat.		75		23	6	: 9
Fort Dunvegan	105	- 29	- 1		==	_
Fort Vermilion				:		
Lbattleford_	- 5	7	Ī	F4	5	
Indian Head		£6 .	1	128		
Med secon		07	23	1.0		1-
11008	157	-	1	7.	8	
Rostbern		# 9		25		
Brandon	0.110	7	1	28.	2	- 10
Winnipeg.	£	\$	1 22	83	1-5	
Haileybury	Ē	83	- 1	3 93		.,
Hoodstock	110	39		- 68	Ē	
Lindsay	96	33	3-16	- F		
Barrie	:					- 1
Toronto.	138		. ! .	80	5	- 179
Kingston.	8	23	6-19-11	95	5	5 12
.вивио	12. 12.	65	7	82	63	=
Montreal.	107	31	7	36	83	9
Cap Rouge.	88	15	T	63	t-	13
Вперес.	3	7.	17	76	=	2
Ste Anne de la Pocatiere	Ξ	30	1	3	2	- 20
Sherbrooke.	:	:	÷		:	- :
Fredericton.	5	55		- 68	œ	=
Charlottetown.	119	33	-	76	23	Ξ
unddeN	140	38	1	82	000	9
Moltville	£	2	1	82	65	œ

SUMMARY OF SUNSHINE RECORDS

#### Thunder Recorded:

- 1.
- 3. Toronto.
- 4.
- 5.
- 6. Sion.
- 7. 8.
- 8. 9.
- 10. Sion, Sydney.
- 11. 12.
- 13. Midland.
- 14. Beatrice, Stony Creek, Agincourt, Copper Cliff, Rutherglen, Birnam, Huntsville, Bruce Mines, Elora, Kinmount, Clinton, Wexford, Uxbridge, Bancroft, Renfrew, Ronville, Madoc, Montreal River, Lucknow, Brantford, Haliburton, White Shore Lake, Emsdale, Georgetown, Westport, Parry Sound, Kingston, Stonecliff.
- 15. Cottam, Almonte, Bloomfield, Renfrew, Madoc, Orillia, Brome, Chicoutimi, Mistassini, Shawinigan Falls, Lake Edward, Cap Rouge, Westport, Deer Park, Quinze Dam, Perkans' Mills, Chicoutimi West, Quebec, Montreal, Parry Sound, Ottawa.
  - 16. 17.
  - 18. Waneta.
  - 19. Wiarton.
  - 20. North Gower, Midland, Almonte, Madoc, Haliburton, Parry Sound, Port Arthur.
  - 21. Madoc, Brome, Shawinigan Falls, Fredericton, Quebec, Ottawa.
  - 22.
  - 23. Birnam, Cottam, Haliburton, Toronto.
- Rutherglen, Bruce Mines, Elora, Clinton, Lucknow, Brantford, Haliburton, Brome, Emsdale, Georgetown.
   25.
  - 26.
  - 27. Quesnel, St. John.
  - 28.
  - 29. Alberni, Barkerville.
  - 30. Birnam, Alberni.
  - 31.

#### Auroras Recorded:

20. 21. 22. 23. 24. 25. 26. 27.

```
1. Atlin IV.
2. Winnipeg III.
3. Clemens IV. Waitefield II.
4. Mistassini HL, Crescent Lake IV.
6. Aitkensville IV., Schreiber, Atlin III.
9. Clemens IV.
10.
11.
12.
13. Aitkensville 11.
14.
15.
16.
17. Mistassini IV.
18.
19.
```

28. 29. Kakabeka Falls III., Aitkensville IV., Aweme II., White Shore Lake IV., Rapid City II., Melfort IV., Port Arthur II.

30 Crescent Lake IV., Clemens IV., Waitefield II., Atlin IV.

31. Waseea, Waitefield IV.

#### FORECASTS FOR MARCH 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1371. These were divided as follows:—

			VERIF	ED.	
District.	No				
TOTAL CONTRACTOR OF THE CONTRA	Issued	No	No	No.	Pet-
		Luiis	Partly	Not	centage
Alberta	82	1.5	6	8	96.6
Saskatchewan	*5		1.8	6	35 3
Manitoba	×1.		q	7	57.0
Lake Superior	106	` `	19	7	54.4
Lower Lake Region	128		15	4	44.8
Georgian Bay	127		211		35.5
Ottawa Vailey .	115		1.	9	54.7
Upper St Lawrence	115	124	14	× .	57 1
Lower St Lawrence	130		20	17	79.2
Gull	1.70	90	15	13	83 1
Maritime Provinces West	129	1.14	15	7	57.6
Maritime Provinces East	12 (		22	12	82.2
Total .	1971	1070	195	100	×5 2

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, April 21st, 1913.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

**APRIL**, 1913

No. 4

#### IXTRODUCTION

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE

#### BRITISH COLUMBIA

Light frosts were recorded on Vancouver Island on the 1st, 2nd and 29th, while in the interest of the Province much sharper frost was recorded on 5 or 6 days. The mean temperature of the month however, did not differ much from average, the departures from average varying from minus 1 to plus 1.

#### THE WESTERN PROVINCES

In northeastern Saskatchewan and southern Manitoba the month was reach warmer than us acpositive departures from average ranging from 7 to 10°. In Alberta and southwestern Saskatchewan the differences from average varied between 3° and 7°. The excess over average temperature was due to a period of unusually warm weather which began on the 11th and lasted till the 23rd. During the sinterval maximum temperatures exceeded 80° on one or two days. The month ended however with a sudden change to colder conditions which were accompanied in many sections of the country by sleet and snow storms.

#### ONTARIO.

Over the whole Province of Ontario the average April temperature was exceeded by 3 or 4. About the 15th there began a period of warm weather which lasted till the end of the month and daring which maximum temperatures ranged between 60 and 85. On the morning of the 20th, however sharp frost was recorded in all sections.

#### QUEBEC.

Except in the districts along the north shore of the Gulf of St. Lawrence the average temperature was exceeded by about 3. Temperature conditions were similar to those which obtained in Ontario except that the minimum temperatures were considerably lower in all districts.

#### MARITIME PROVINCES

In the Maritime Provinces, also, excess over average was about 3. The first ten days were vercool, 15 to 20 of frost having been recorded on the Stn. From the 12th to the close of the more much warmer conditions obtained, maximum temperatures exceeding 80 or the 25th and 26th

#### PRECIPITATION.

The total precipitation for the month of April was considerably less than the average in British Columbia, Alberta, Saskatchewan, Manitoba, the Rainy River and Thunder Bay Districts of Ontario, and in the Province of Quebec from Quebec City to the Ocean. In New Brunswick and Cape Breton Island there was also a considerable deficiency, but over the greater part of Nova Scotia a large excess. With few local exceptions, the average precipitation was well exceeded in Ontario.

#### HIGH AREAS.

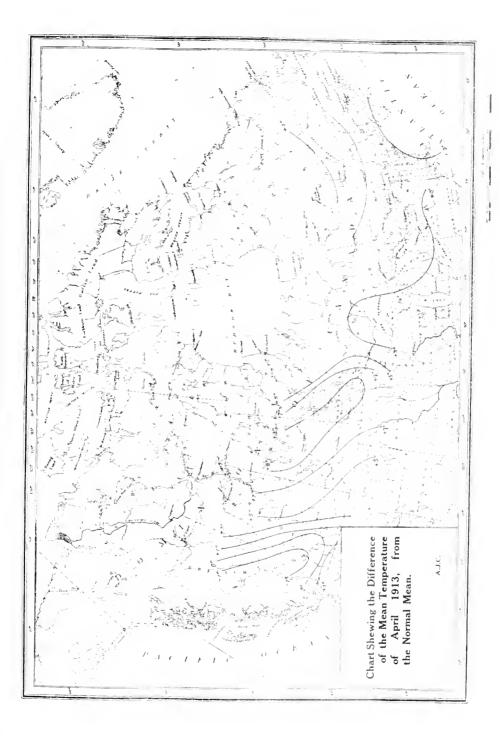
Nine areas of high pressure were charted. Two first appeared in Northern Manitoba, one in Southern Saskatchewan, one on the west and one on the south shores of Hudson's Bay, three on the north, and one on the Middle Pacific States coasts respectively. The areas in nearly all cases were quite feeble, while five passed either over to the northward of the Great Lakes, the remaining four travelling far to the southward.

#### LOW AREAS.

Eleven areas of low pressure were charted. Four first appeared on the northern British Columbian coast, four in the West Pacific States, one in the Gulf of Mexico, one in North Carolina, and one off the Newfoundland coast. The general track of the areas was across the continent well to the northward to the Atlantic Ocean; they were not as a rule very energetic, and as a consequence few gales or high winds were experienced during the month.

#### ATMOSPHERIC PRESSURE.

The results obtained at the Telegraph Reporting Stations, as indicative of conditions throughout Canada, shew that the mean atmospheric pressure for April was above the average from Lake Superior to the Gulf of St. Lawrence and that values were subnormal in other parts of the Dominion. Negative differences in Saskatchewan and Southern Alberta were from 0.06 to 0.08 of an inch, and positive departures in Northern Ontario exceeded 0.05 of an inch.



# WINDS, APRIL, 1913

PROVINCES AND STAT	HONS	Total	Greatest	Greates	t Milegge in	1 Hour	Nun	ber of Day	los	Canan
TRAVESCE AND STAT		Mileage	Mileage in 24 hours	Miles	Direction	Date	Gales	Strong Winds	Fresh Winds	GENERAL DIRECTION
Звинан Согтмви										
Atten		5546	. 379		1					
Prince Rupert Victoria		5794	530	34	SW	21		7	12	SW
Point Gorry			,							
Vancouver Kamiloops										
UBFRIA										
Edmonton Calgary		5281 3981	355 312	27 23	NW NE	21 15		3 3	11 13	SE, NW NW
Carpaix		13,171	41.0	2.0	NI,	1.0		0	13	14.11
VAKAR BEWAN										
Buttleford										
Prince Albert Swift Current										
Cu'Appelle		8139	474	33	NW	25	'i	16	8	SE
LINITOBA		ŧ		i.						
The Pas										
Winnipeg		85(ff)	542	31	NW. SE	17-28	2	9	10	SE
UNTARIO										
Port Arthur		7192	530	23	N. NW	4	1	9	12	N, E
White River Cochrane										
Parry Sound Sou-hampton		7041 5524	135	26 40	sw	5	. 2.	3	16	SW, NE SW, NW
Pelce Island .		10924	718	42	N	28	9	11	9	
Woodstock Guelph		7405 8407	514 553	32	NW	19	2	5	13	NW NE, NW
Toronto Kingston		10522 7622	693 478	40	NW E	1-3 29	6	17 9	6 13	E NE
Stonecliffe		4625	269	20	W	Ĩ.		2	13	w
Ottown					•					
Q1 EBFC			-	1						
Montreal		9949	516	- 11	su.	5	4	16	10	sw
Sherbrooke .		5439	732	39	SII	1	4	8	10	NE
Quehec Futher Point		9859	751	.54	SW	i	. 5	9	4	W
Anticosti, SW Harrington		10681	824	40	SE, NW	1-2	5	15	6	SE
								1		
NEW BEICSWICK			1							
Pt Escummae .			****		w .	00		إسترادي	10	w
Fredericton . St John		5531 7774	50 <b>4</b> 606	31	SW	20 19	1 2	4 7	12	N
Pt Leprenux		9643	733	14	NW	20	6	13	5	W, NW, N
Nova Scotia										
Yarmouth		7646	194	30						NE
Wolfville .		. 7116	625	39	8.	19	. 2	7	7	SW
Halifax Sable Island		8382	632	37	sw	19	1	14	6	E
Flat Point		9320	506	34	NW	20	5	15	6	W
PRINCE EDWARD ISLAND										
			125							OH 27111
Charlottetown		4770	429	25	SW	1		3	13	SW, NW

<sup>\*</sup> Part of month only.

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 191-

\*Stations not furnished with Registering Thermometers

				e			_	ТЕМ	PERATUR	E		}	hempital	ION	more			٠,	
STATION.		I atutude N	Longitude W.	Elevation above sea level, in feet	Меал	Difference from average	Yr's Observations	Highest	Pare	Lowest	Date Mean dady rappe	Amourt	Difference from	Heaviest fall in month.	swith of or	No of fair days	No of auroras	No of thunderstorms	No of fogs.
BRITISH COLUMBIA-							-									-		-	-
S. Vancouver Island Albern (Beavet Creek) Clayoquot. Cloose Coweban (Troubalem) Cliffe Bay Nanaimo Nanoose Bay. Salt Spring Island Sooke Victoria	45 45 45 45 46 47 48	15 11 25 10 17 50	0 / 124 49 125 55 123 42 123 37 124 12 120 20 123 44 123 19	300 27 470 125 130 25 55	44 3 46 7 44 6 47 6 44 1 45 2 44 8 1 45 9 48 9	- 2 % + 1 1 - - - - - 0 0	15 11 1 7 - - 1 4 3 25	71 0 58 0 61 0 69 5 65 0 69 0 64 1 66 0 70 4	E E E E E E E E E E E E E E E E E E E	26 0 54 0 25 0 28 0 27 0 27 0 28 0 31 6 27 0 30 7	1 12 2 10 1 16 1 18 1-22 18 1-28 15	1 II	50	0 82 0 82 0 35 0 52 0 18 0 55 0 63 0 42	12 1 11 1 14 1 19 1 10 1 14 1 8 3	.5 9 6 1		1	1
N. Vancouver Island Holberg Swanson Bay Triangle Island Winter Harbour (Quatsino)	50 50 50	3.7	128 18 126 53 129 5 127 4 1	680	43 2 40 2 43 9		4	59 1 55 ( 57 0	18 29 10-18	22.6 .0.0 30.0	28 10 1 10 1-2 13			1 91 3 06 0 81	22	5 . 5 .		1	
Louver Fraser River Agassus Challiwack Hope Ladner New Westminster North Niconnen Pemberton Matchery Pemberton Meadows Ruskin Kitnee Falls Staveston(Garry Point) Vaccouver	49 49 49 49 49 50 49 49	05	121 31 121 57 121 25 123 4 122 54 122 2 122 3 122 3 123 17 123 5	52 21 500 330 51 425	51 3 0 8 40 8 40 8 40 8 44 40 8 44 41 6 6 8 44 41 6 6 8 44 41 6 6 8 41 41 6 6 8 48 48 48 48 48 48 48 48 48 48 48 48 4	+ 4 4 - 0 7 - 0 4 - 0 1 - 0 1 + 0 2 - 0 1	21 12 4 43 25 1 4 4 8 13	75 0 0 5 0 0 5 0 0 6 0 0 6 0 0 6 6 0 0 6 6 0 0 6 6 0 0 6 6 0 0 6 6 0 0 6 6 0 0 6 0 0 6 0 0 6 0 0 6 0 0 6 0 0 0 6 0	15 20 15 15 15 15 15 15 15 15 15 15 15 15 15	30 0 26 0 26 0 29 0 29 0 29 0 24 0 24 0 24 0 30 6	18 24 1-29 19 1-7 26 1-7 26 1-22 14 1 16 1 20 2 21 1 22 1 18 2 13 3 15	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 +0 5-1 00 8 -0 24 2 -0 17 5 -1 14 5 -1 14 5 -1 14 5 -1 14 6 -0 61 6 -0 61	1 01 0 56 0 40 0 65 1 06 0 35 0 38 1.43 0 39	\$ 23 \$ 23 \$ 24 \$ 24 \$ 29 \$ 29 \$ 21 \$ 12 \$ 14 \$ 14	8		1	
Upper Fraser River Babina Lake Barkerville Chileotin (Big Creek) Fort George Fort St. James (Stuarts Lake) Hydraulic Queenoille	55 53 51 54 52	35 02 40 25	126 26 121 35 123 0 124 12 122 30	4180 3100 2280 1700	35 3 34.0 37 3 38 6 37 2 41 4	-14 -19 +14 -08	10 11 20 11 2 19 2 17	57 0 57 0 66 0 70 6 59 0 68 0 75 0	18 18 18 20 18	5 5 8 0 8 0 9 0 13 5 14 0 18 0	3 20 2 20 2 25 2 25 3 21 3 25 30 26	1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5 - 0 11 1 -0.53 0 - 1 -0.53	0 50 9 35 0 11 2 50 0 24 0 35	6 2 11 1 2 2 3 2 5 2 5 2 3 2	9			
Okanagan Valley Amstrong Heddley (Nickel Plate) Keremeos Kelowasi (Okanagan Mission) Princeton Richlands Summerland. Vernon (Coldstream Rauch	19 19 49 49 19 50		120 10 119 29 119 35 120 29 119 40 116 15	1774 1209 1650 1160 1582	44 6 47 6 31 9 50 2 46 2 48 0 43 4 47 2 46 4	- 0 4 - 0 4 - 0 6 - 0 1	1 10 10 6 14 7 10 1 1 1 2 1	74 0 77 0 55 9 76 0 78 0 75 0 71 0 73 0 73 0	12 18 18 12 12 13 12 13 14 18 18 12 12-13	11 0 · · · · · · · · · · · · · · · · · ·	21 24 15 14 15 14 15 15 15 15 15 15 15 15 15 15 15 15 15	0 3 0 6 1 7 0 5 0 1 0 3	3	0 17 0 26 0 85 0 29 0 07 0 19	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			1	
West Kootenuy Crawford Bay. Creston. Grand Forks. Greenwood Kaslo. Nakusp. Needles Needles Neslan Rossland Waneta	49 49 49 49	45 2 5 52 52 29 5	118 45 118 27 118 49 117 0 117 21 117 48	2000 1752 1760 3400	44 U 44 4 47 0 44 6 42 4 42 0 42 7 46 2 46 1 41 5		4 2 3 1 2 5 2 4 13 7	70 0 75 0 76 0 90 0 70 0 65 0 74 0 63 0 74 0 63 0 74 5	18 12 12-18 12 19 26 13 17 13 18 12	21 0 25 0 24 0 4 16 0 20 0 16 5 19 0 23 5 20 0	1 22 8 1 30 23 1 2 26 5 1 31 9 23 10 3 2 21 6 2 31 4 2 22 6 2 27 6 2 27 3	0 4 1 7 1 1 2	0.70	0 40 0.08 0 08 0 25 0.52 0.35 0 15 0 40 0.35 0 30 0 20	7 23 6 28 6 28 11 13 7 25 5 25 7 23 5 25 3 27 3 27			1	
East Kootenay Akamina. Cranbrook Tobacca Plains (Elko) Wilmer	49 49 49 50	10 30 -1 34	114 20 115 50 115 5 116 14	4150 2684	43 5 45 4 41 8	+ 0 2	5 19 4	78 0 78 1 70 0	14 15 14	14 0 - 20 0 18 0	3 31 0 3 25 1 3 22 7	0 49 0 70 0 40	- <u>0.53</u>	0.22 0.33 0.18	6 24 4 26 5 25				
Thompson River Asheroft Enderby Harper's Ranch Harper's Ranch Monto Creek Nicola Lake Salmon Arm Salmon Arm Tappen Tranquille Vavenby	50 50 50 50	41 9 42	119 7 120 29 120 39 119 35 119 29	1180 1245 2120 1152	50 2 47 0 40 4 48 7 43 4 45 8 45 8 19 8	+ 0 7 - 0 5 - 0 3 + 0 1	1 11 21 18 12 22 2	70 0 76 0 75 0 77 0 77 0 77 0 77 0 77 0 77 0 77	11 12 12 12 10 14-18 11 11-12	21 0 20 0 20 0 20 0 20 0 19 0 19 0 22 0	1 26 3 1 27 6 2-3 26 4 1 26 7 2 25 8 2 26 4 1 26 7 2 31 5 2 27 0	0 11 0 05 0 15 0 15 0 38 0 55 0 36	-0 79 -0 16 -0 41 -0 46	0 05 0 05 0 05 0 05 0 05 0 32 0 52 0 24 0 13	5 28 1 29 3 27 4 26 3 27 2 28 1 29 5 25 6 24				
North Columbia River Glacier Golden Invermere Revelstoke	51 51 51	0	117 29 118 6 116 55	4072 1476 2550	33 6 41 3 45 9 41.2	- 1 9 - 0 0 + 1 2	13 11 1 1 13	53 0 71 0 74 0 70	13 13 26 20	10 0 13 0 10 0 21 0	2 · 14 · 8 2 · 26 · 9 3 · 28 · 7 3 · 24 · 2	2 20 0 03 	_	0 60 0 03 0 35	9   21 1   29 5   25				

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1913.

\*Stations not furnished with Registering Thermometers

							Гемеј	EBATUB	E			Prec	IPITAT	ION	-				
STATION.	Latitude N.	Longitude W	Elevation above sea level, in feet.	Меал	Difference from average	Yr's Observations	Highest	Date	Lon est	Date.	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month.	Days with 0 1 or more	No. of fair days.	No. of auroras	No. of thunderstorms	No. of fors
BRITISH COLUMNIA COR						_					_				_	_	-	-	-
North Coast																			
Bella Coola Khtada Rivet Prince Rupert Stewart Terrace	52 40 54 18 56 1	126 54 130 18 130 I	150 170 215	43 2 42 3 42 0	_ 0 6	14 4 1	64 0 67 0 60 0	19 11 18	24 0 34 0 29 0	2 6-7-29 2	19 P 10 3 16 4	2 64 \$ 86 2 01	+0 79	0 64 1 14 0 52	15 25 17	15 5 13		1	1
Queen Charlotte Islands											1								
Ikeda Bay Massett Vukun Boundary	52 17 53 58	131 7 132 9	5 30	43 4 40 8	0	16	53 0 51 0	19 <b>1</b> 3	34 0 30 0	6-28 27-28	8 1 10 3	6 67 4 81	-0.08	2 05 0 86	19 25	5			
Atha	59 35	133 38	2240	31 3	_	8	42 5	18	12 0	8	15 1	0 38	_	0 28	4	26	1		1
YUKON—																			
Careross Dawson	60 11 64 4	134 34 1 139 29	2171 1200															::	
Mackenzie Ft Resolution	61 0	113 0	800							1						1			
AIBERTS -	11 17	113 0	300										300						
N. Naskatchewen Terer Campasa Caronation Dayshard Edimonton Endmug Gilt Edige Halkerk (Emsburg) Loveland Pokan Vactoria Sion Springdal Wataskiwin Wastina	51 8 55 52 53 33 52 0 52 59 52 17 52 30 53 29 53 54 	114 42 112 17 113 30 112 0 110 43 112 10 111 59 112 31 111 38 114 15	2158 2795 	41 1 42 1 41 8 44 7 39 8 40 6 42 4 41 7 40 2 40 2 45 2 42 2	+ 4 1	1 6 30 3 4 3 9 1 11 1	73.8 79.0 77.0 70.5 76.5 76.5 76.0 76.0 76.0 76.0 773.7 76.0 78.0	19 14 12-13 12 12 13 12-13 12-13 12-13 18 12-13 18 18 18 18 13	11 0 0 0 18 0 22 0 18 2 20 0 15 0 13 0 16 0 11 0 20 0 14 0	3 24 1-25 29 24-30 25-30 3-25 25 3-7 1 2 25	29 6 34 2 27 7 26 5 26 4 23 5 23 7 27 7 25 5 27 5 29 7 30 0	0 55 T 0 32 1 02 0 20 1 0 80 0 97 0 78 1 86 0 23 0 17	+0 18	0 27 T 0 20 0 45 0 20 0 80 0 80 0 60 0 10	4 0 3 9 1 1 4 6 5 4	26 30 27 21 29 26 26 24 25 26	1 1 1 5	1 1 	
The Red Deer River												 							
Alix Clemens Delta Didsbury Harmattan Hillsdown Lacombe (Ex. Farm) Red Deer Threchild Creek	52 24 51 38 51 40 51 45 52 14 52 58 52 16 51 30	113 44 113 49	3500 2806 2783	42 9 43 9 42 3 44 2 39 6 40 9 42 6	+ 3 7 + 0 7	8 1 2 11 6 10 6	77 0 79 7 78 3 78 0 75 0 72 0 77 8	13-14 13 12 12-13 14 12 12	13 0 13 0 21 3 20 0 11 0 15 0 17 4	24 9 1-2 1 3 23	30,5 27,9 27,4 28,1 30,3 22,1 29,8	0 90 0 68 0 14 0 30 0 30 0 25 0 15	-0.55 -0.49	0.87 0 30 0.05 0 30 0.30 0.26 0 10	2 5 4 1 1 1 2	28 25 26 29 29 29 28	3 1	1	
The Bow River																			
Brooks Calgary Carlston Gleechen High River, Lawrence (Parkland) Lethbridge Lethbridge (Eap Farm), Macleod Medicine Hat Okotoks Phylo Creek (Mayeroft) Strathmore, Sandin!	50 34 51 2 49 12 50 59 60 35 60 16 49 42 49 44 50 1	113 18 112 54 113 53 113 26 112 51 112 51 113 24 110 37	3389 2952 3394 2961 3128 2161	43 3 45 9 42 9 42 7 41 2 43 8 44 2 49 0 41 3 39 2	+ 6 2	2 29 13 10 6 6 18 29 1	73 0 80 0 79 0 72 0 75 0 81 2 77 6 85 0 77 8 74 0	14 12 14 15 25 14 13 13 14 13 13	15 ft 19 0 20 0 17 0 17 0 17 0 12 5 5 0 18 0	29 3 3-4 3 1 1 8 2 2 3 24 2-3	34 6 27 2 28 8 28 8 29 7 29 5 25 9 31 8 31 2 30 2	0 21 0 25 8 0 10 0 52 0 25 0 97 0 04 0 75	-0.48 	0.09 0.10 8 0.05 0.26 0.10 0.34 0.03 0.40	3 2 3 4 5 2 3	26 27 28 27 26 25 28 27 28 27		1	
Rocky Mountains																			
Banff Blairmore	51 10 49 <b>4</b> 0	115 34 114 30	4542 4225	36.3	- 0 3	18	66.9	13	- 2 7	2	25 6	1.58	+0 52	0.77	8	22		1	1
Athabasca River				41.0		100			10	0.7		0.00		0.27	١.	96			
Athabasca Landing Lunnford Pembina	54 43 54 33 54 12	113 17 114 19 114 0	1650	41 0 41 3 41 8	=	10 4 5	75 <b>0</b> 73 <b>4</b> 75 0	11 13 13	16 0 15 0 17 0	25 2-3 25	27 8 29 3 29 9 1	0 92 1.13 9 75	=	0 37 0 50 0.20	3 6	26 27 24	::	;i 	::
Peace River Beaver Lodge	44 00						*00.5				00	,		0.50		9.0			
Dunyegan Fort Vermilion Fort Vermilion (2) Peace River Crossing Spirit River	55 20 55 56 58 27 56 16 58 40	119 24 118 36 116 3 117 15 118 47	1306  2400	39 0 33 5 35 0 41 6	=	1 8 -6	68 5 75 0 78 0 77 0	20 20 19	2 0 1 5 10 0	29-30 8 8 8	22 8 25 1 27 6 28 6	0 30 0 68 —	=	0 70 0 20 0 20 -	2 3	26 28 27	3 3		

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF LANADA, APRIL 1901

\*Stations not furnished with Registering Thermometers

				=			Темрі	RATURE			1	- RECIPITAT	1014	ن				
STATION	Latitude N.	Longitude W.	Elevation above sea level, in feet,	Mean.	Difference from average.	Yr's observations	Inghest.	Date.	Lowest.	Date.		Difference from	Heaviest fall in month	Pays with 01 or more	No. of fur days	No of Auroras	No of thunderstorms	No of fage
SASKATCHEWAN-																		
Qu'Appelle River	0 /	0 /	1000	44.8				17		2.0								
Broadview Brownhill (Grentell P.O.). Brownlee Buchanan.	50 23 50 23 50 45	102 33 102 53 106 0	1960 1957	43 9	+ 6 7	19	80 0 78 0	17-22 13	20 0 14 0	3-9 34 25 24			4 00 1 0 30	4	29 26			
Crescent Lake	50 59 49 12	102 25 103 4	1658 1858	39 3 43 8	_	8 9 2 7	77 0 77 0	22 14	8 4 12 0	3 24 25 24 26 29	2 0 :	F3 =	0 40		27 27		l	
Estevan Fort Qu'Appelle Hubbard (Drumague) Humboldt	51 5 52 12	103 21 105 9		45 5 38 2	_	7	84 5 74 0	14 21	10 0 10 0	26 29 2 21	0 0	28	0.28	1	29 29			
Imperial Indian Head Kamsack	52 12 51 22 50 28	105 23 103 40	1924	42 3 42 6 40 4	$+\frac{-}{4}$ 3	$\frac{2}{23}$	80 0 80 0 77 0	12 14 21	15 0 12 0 10 0	25 24 25 24 2 19	6 11	-0.7	0 56 5 0 13 0 10	1 1	28 20 20			
Manor	$\begin{array}{ccc} 49 & 43 \\ 50 & 21 \end{array}$	102 2 105 35	2064 1759	46 0 41 8	+ 7 s	18	84 0	13	15 G	26 20	5 n	S -02		2	28			
Muenster (St Peter's Mon ) Pilger	50 0 52 0 52 25 50 20	101 37 105 0 105 9	1884 1870 1879	40 0 39 5 43 5	_	11 8 2 17	82 0 72 0 73 0	21-22 21 14	11 0 14 0 12 0	26 26 2 20 2 3 21 25 28	3 (F) 7 (F)	14	0 U5 0 14	3	27 29 20			
Qu'Appelle	50 20 50 30 52 4	105 0 103 47 101 14	2115 1600	43 8	$^{+\ 5\ 9}_{+\ 7\ 8}$	29	82 0 77 €	14-21	14 H 14 0	25 28 26 24	6 0 i	7 -0 5 2 -0 7		3	20 27	1		
Strassburg	50 27 51 5	104 37 104 57	1885	43 6	+ 6 5	27	S0 0	13	9 0	26 28		i5 0 6	9 0 03	2	52			
Yarbo (Fairfield) Yellow Grass Yorkton	50 39 49 49 51 11	102 - 4 $104 - 9$ $102 - 29$		42 5 43 8 39 4	Ξ	6 3 4	78 0 82 0 77 0	12 14 22	8 0 11 0 15 0	2 22 25 29 3 23	5 2 0 ()		0 10 0 00		29 30			
S. Saskatchewan River Chaplin East End (Divide)	50 26 49 31	106 39 108 49	2202	43 3 40 8	+ 3 0	26 6	56 0 77 2	15 15	15 0 12 6	24-25 32 2 39	2 (F.	22 1.0	2 , 0 20 0 51	13	25 28			
Kelvinhurst (Nushlyn). Kindersley. Larchmount (Glenbryan)	51 46	108 10		35 3 44 0	Ξ	3	78 0 83 0	13	18 0 12 0	4 5 25 25 27	7 0 0 6 0 1 1 1	.41	0.26	3	27			
Larchmount (Glenbryan) . Oliver	49 21 49 54 51 20	109 29 107 27 108 57		42 5 43 8 42 8	_	3 4 3	55 0 85 0 52 0	16 14 16	15 0 12 0 8 3	25 25 34 26 30 25 30	6 6	12 - 11 -	0 65 0 08 0 15	2	25 28 24	2 1		
Swift Current,	50 20	107 45	2439	46 6	+ 5 5	27	82 0	15	18 0	25 30 25 27	7 6		1 6 22	5	25			
N. Saskatchewan River	20 41	108-20	1620	47.0	+ 9.0	2.3	83 0	13	20.0	25 26	2 0 :	in 0.1	E 00	0	12			
Battleford	52 41 53 18 52 5	110 0	1020	42 4 42 3	_	8	78 0 81 0	14 13	18 0 15 0	25 26 25 23 25 28	9 6 7	10	0.00	0	30 25			2
Onion Lake	53 52 51 6 51 59	109 59 108 20 109 30	1700	43 2		4	79 0		14 1	95 27			0.09	3				
St Walburg Waseca		109 29		42 0		6	78 0	13	17 0	25 23			Т	0		1		
The Saskatchewan Forks																		
Chagoness (Star City) Duck Lake	52 32 52 54	104 13 106 20																
Prince Albert	52 47 53 10	104 30 106 0 106 20	1432 1657	41 8	_	3	76 0 73 9	21 22	14 0	25 22			0.28	3	27	1		
Saskatooa	52 40 52 15	106 30	1571	43 9	+ 7 2	15	73 9 77 8	14	19 9	26 23		s —0 00		2	28			1
Lower Saskatchewan River																		
Cumberfand House	53 56 53 <b>1</b> 7	102 16 104 21		40 1		2	76.0	21	16 0	25 22	3 0.5	2 —	0.45	6	24			
Manitoba—																		
Qu'Appelle and Assini- boine Rivers Aweme (St. Albans)	19 42	99 35	1180	45 6	+ 9 5	28 2	85 0 79 0	14 22	17 0 21 0	26 27 26 22	n n			6	24	2		
Brandon	59 25 49 51	101 1 99 57 99 20	1703 1176 1258	44 9 44 3	$+ \frac{-}{4} 0$	2 25	79 0 82 7	22 14	$\frac{21}{18} \frac{0}{1}$	26 22 26 26	2 0 0 0.	5 -0 4	0.30	3 4	27 26			
Carberry	49 31	98 0 99 3	872 1232	43 0	-	8	80.0	15	15 0	25 26	1 0:	1	0.09	5 2	25			
Hillview Minnedosn	49 33 49 55 50 15	100 33 99 50	1400 1699	44 2 44 1	$\begin{array}{c} + & 6 & 1 \\ + & 6 & 6 \end{array}$	24 29 2	79 0 79 5 77 0 78 0	14 14	20 0 16 1 21 0	1 21 26 25 26 25 27 20	9 0:	$\begin{array}{cccc} 12 & -1 & 66 \\ 1 & -0 & 5 \end{array}$		4	28 26			
Carnerry Carmen Cypress River Hillyiew Minnedosa Ninette Ninga Piersoa	49 24 49 14 49 11	99 38 99 51 101 5	1363 1649 1531	44 0 43 5 43 9	_	4 9	77 0 78 0 53 0	15 14 15	21 0 22 0 11 0	26 25 25 20 28 26		in =	0.30	3	27			
Pipestone. Portage la Prairie	49 34 49 57	100 58 98 17	1400	44-4	+ 4 7	23	81.8	15	19.0	26 - 23	3 0		0.30	6	24			
Portage la Prairie (2) Russell	49 56 50 59	98 17 101 20		44 9 40 4 49 0	+ $5$ $3$	20	81 0 76 0 81 8	15 15 14	20 0 15 0 29 1	26 24 3 24 22 5 19	3 0 1 7 0 1 8 0 1	3 ~ 0 St 30 —	0.30		29 29 29			
TreherneVirden	49 36 49 51	98 <b>40</b> 100 55	1212 1444	44 7 45 4	+ 6 3	18	80 0 82 0	14 14	16 0 22 0	26 21 2 26	6 H.	-	0.10	7	23		2	
The Red River	49 14	99 20		45 2	+ 9.7	11	82 0	21 15-22	17 0	26 25 26 22	3 0 3	g 0.8	0.20		25			
Mordon. Oak Bank. Stony Mountain	49 11 49 57 50 40	98 6 96 42 97 14	978 808 803	45 2 44 5 44 4 44 4	+ 5 6	9 27 31	82 0 79 0 74 7 79 0 77 8	15-22 21 22	$\begin{array}{c} 17.0 \\ 18.0 \\ 18.5 \\ 15.0 \\ \hline 19.4 \end{array}$	26 25 26 22 26 20 26 27 26 22	S 0:	1 0 5	0 37 0 40 3 0 13	1	28 26 28		1	1
Winnipeg	49 53	97 7	760	46 1	+ 5 4 + 7 5	37	77 8	21	19.4	26 22	7 0	11 -1 1	0 19	3	25 22		1	,

\*Stations not furnished with Registering Thermometers

				_		_		LEMPE	RATURE				P	RECIPITAT	ION	more				
STATION	2	Jatifude N	l'engitude W	Elevation above sea 	Mesin	Difference from	Yr's observations	Highest	Date	Linest	Date	Mean daily range	Amount	Difference from	Heaviest fall in month	Days with 01 or mo	No of fair days	No of auroras.	No. of thunderstorms	No of logs.
Wavijoba Continued																				-
Daughen Lake and Rever Berens River Daughan Moose Horn Bay) Artkens- ville)	51 51	18 8 15	97 23 160 2 99 33	716 957	43 7 39 9	-	3	80 o	15 15	17 0 16 1	26 26	21.5 21.8	R 0 :	- -	R 0 13	``o	30 26	5		
Luke Winnipigusis Le Pus	59	ь	101 15	1112																
Ozranio-																				
The Lake Superior Districts Rucing River Fort I made Kenota	49	4.	v 32	1102	39-6	+ 2 ×	14	65 11	15-29	18.0	216	17.3	0.1	n —ò 74	0 04	ż	28	.:	·i	
Thunder Bay Kukubeka Falls Port Arthur Schteiber	48 45	29 27 50	84 26 89 12 87 15	912 644 533	37 4 37 5 38 1	_ - 2.4 + 4.4	5 32 13	79 0 58 0 62 1	30 30 24	6 4 20 0 4 1	6 20	29 8 19 0 22 3	0.7	5 -1 12 6 -1 12	0,40 0,25 0,20	5 7 3	25 23 27	.1	1 5 1	
Algoma Bruce Mines Copper Chiff Porcupine Providence Bay Tummis (Sandy Tulls) White River	46 46 45 48	18 30 40 35	83 55 86 59 82 14 85 16	895 1252	39 4 41 0 34 7 40 1 37 5	+ 0 9 = = + 1 0	14 6 2 2	66 0 76 0 77 0 68 0 71,0	24-28 24 25 26 23	18 0 14 0 - 2 0 20 0 - 8 0	20 6-7 2 10	21 4 21 5 22 9 19 1 24 8	2 ( 1 ( 2 1 2 3 0 3		0.74 0.62 0.50 0.93	9 8 8 3	21 22 23 27 26		2	
Nipissing Cochrane Hadeybury Iroquots Falls Montreal River	49 47 47	2 29 8	81 0 70 39 79 29	94% 687	39 6 35 1 40 4	+ 1 3	20 t 3	\$1.0 85.4 50.0	24 30 24-25	15 0 1 2 17 0	20 8 20	20 2 25 9 21 3	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	er in is		11 10 6	19   20   24	2		i
Upper Ottawa River Ratherglen (Lake Talon) Stonechif (Rockliffe)	46 46	15 9	74 48 78 6	557	41 1 42 6	+ 0 0 + 2 9	17 35	82 0 56 0	25 25	18 5 20 0	20 20	22 2 24 5	2 (	0 -0 43	0 65	9 9	21 21			
Upper St. Lawrence and Lower Ottawa Rivers Almonte Bloomfield	45 43	12 59	76 13 77 21	390 260	43 0 44 5	+ 0 6	2 15	8n 2 85 U	26 18	21 2 24 0	20 20	22 5 20 1	2 5 1 8	61 67 -0 50	1 41 0 64	7 6	23 24			
Hilber Kingston Montague North Gower Ottawa Renfrew	44 44 45 45	13 56 8 26 26	76 29 75 57 75 43 75 42 76 39	285 294 416	43 3 45 4 	+ 1 ~ - + 2 1 + 3 2	. 38 4 11 30 25	75 4 83 0 85 0 85 0 86 8	25 26 25 26 25	23 1 22 0 22 0 22 0 22 0	20 20 20 20 20	15 0 22 6 	272212212	7 +0 78 2 = 2 = 01 +0 43	1 28 1 75 0 73 1 06	11 7 4 9 7	19 23 26 21 23	::	2 2 3	
Georgian Bay Counties Bartie Bentrice Coldwater	44 45 44	23 8 38	79 41 79 20 79 40	839 800 600	42 3 45 4	+ 3 u	43	SI 0 SI 0	25 24-25	20 0 25 0	20 20	21 9 29 8	3 (	4 +0 90	0 89 7 50	8 6	22		1	3
Collingwood Gravenhurst Huntsville *Mulland	44 44 45 45	31 54 19 44	80 2 79 20 79 8 79 53	750	42 3 42 0	+ 3 4	42 7 6	82 0 83 0	25 25	22 0 20 0 -	9 20	22 2 22 3	3 2	4 +1 63	1 40	7	23		4	2
Markdale Orthia Owen Sound Parry Sound Ronville Shelburne Uplands	41 44 15 45 44 15	37 34 19 15 5	79 24 80 55 80 0 78 57 80 47 79 25	775 597 635 1038	42 5 13 5 41 5 40 4	+ 1 2 + 1 5	15 37 6	80 0 84 0 78 0 75 0	27 24 24 25	19 0 21 0 19 0 18 0	20 20 19	22.3 21.7 21.0 20.2	2 3 3 6 3 1 2 6	1 +1 64		10 5 9 7	20 25 21 23		1 1 1 1	
Lake Huron Counties Birnam Clinton Goderich Lucknow	43 43 43 43	2 32 45 56	81 55 81 37 81 41 81 30	600 908	44 8 42 7 42 4 41 8	+ 1 2 + 3 0 + 1 7 - 1 3	30 11 23 29	77 S 75 O 79 O 78 2	25 26 26 25	20 0 21 0 23 5 20 1	21 21 21 21	15 6 18 8 16 8 20 0	3 5 4 0 2 4 3 3	6  +1 38 2 +1 13 4 - 7  +1 23	0.90	8 13 11 12	22 17 19 18	1	3 4 2 4	1
*North Brace *Point Clark: *Sarma Southampton	43 44 44 42 44	5 5 59 30	81 25 81 44 82 24 81 21	595 586 656	41.8	+ 1 0	36	77.5	24	23.9	21	16 0	3.9	1 :::	1 36	:	18			:
Lakes St. Clair & Erie, Nlagara Peninsula																			1	:
Cottam Cottam Dutton.	42 42	23 :	82 12 82 45	5°15 306	47 0 44 5 45 2	- 1 2 - 2 1	26 25 1	\$2.0 \$4.0 79.0	25 25 23	23 0 22 0 20 0	21 19 20 21	22 0 24 2 22 4 18 5	2 3 3 1	n +0 72	-	5	26 25 —		2	
Grunsby Peleo Island Port Burwell Port Dover Port Stanley St. Catharines	43 41 42 42 42 43	13 50 39 27 40 9	79 36 82 35 80 55 80 18 81 13 79 17 79 45	585 592 635 592 347	46 6 46 8 43 7 43 8 43 7	+ 2 7 + 2 6 + 1 6	32 10 37 38	83 0 79 0 72 0 77 0 71 1	24 30 24-25 25 25	28 5 28 5 24 5 24 5	19-20 5-7 2+21 21 7	18 5 8 2 18 0 17 7 17 2	3 9 2 0 3 7 4 5 3 2	$ \begin{vmatrix} -1 & 11 \\ 3 & +1 & 01 \\ 4 & -0 & 03 \\ 5 & +0 & 67 \end{vmatrix} $	1 39 1 56 1 15 1 08 0 77	7 3 7 9 10	23 27 23 21 20		i i 1 2	
Stoney Creek Wallaceburg Welland Windsor	43 42 42 42	13 35 59 20	79 45 82 24 79 17 83 4	292 577 625	45 7 47 2 46 0	+ 1 6 + 2 6	30 8 27	81 0 79 0 80 0	24 + 24-25 24-25	30 0 23 0 25 0	20 21 20 21	17 S 21 0 2+1	3 3 2 5 3 8	2 +0 49 4 -1 3 +1 15	0 80 0 60 0 87	5 10 8	25 20 22		Ξ,	

. Stations not furnished with Registering Thermometers

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STATION	Latitude N	Longitude W.	Elevation above sea level in feet	Mean.	Difference from	Yr's Observations	lighest	Pate	Lowest	Date	Mean dury range	Amount	Difference from	Beavest full in noonth	Pays with '01 or more	No of for days	No of auroras	No of thunderstorms.	No of logs
Ontanio-Continued-												_			_		-	_	
West-Central Counties	0 /	0 /																	
Alton  Brantford Elora Guelph Lastowel London Paris Shelburne Stratford	13 54 43 10 43 41 43 33 42 59 43 12 44 23	80 5 50 21 50 24 80 16 81 13 80 25	1259 750 1274 1050  808 840	46 3 43 0 44 9 43 7 46 4 47 1	+ 3 2 + 3 0 + 3 3 + 4 9 + 3 6 + 3 2	33 17 25 18 30 24	83 0 80 0 73 0 81 0 83 0 84 0	25 24-25 25	24 0 22 0 25 0 21 0 21 0 26 0	20 21 20 20 21 21	21 S 21 T 19 1 21 S 21 3	4 16 3 12 4 31 1 30 57 4 10	+2 73 +1 12 +1 73 +3 34 +1 19 +2 27	1 29 1 28 0 68 1 51 1 62 1 05	6 10 10 7	24 20 30 23 23 19		4 2 1	*
Woodstock.	43 S	80 47	980	45-9	+ 2 6	40	55 5	24	24 0	24	215	2.67	11.55	1 02	13	19			
Lake Ontario Counties																			
Agincourt Aurora Hamilton Oshawa Toronto 1s.(Lakeside Home) Uxbridge Wexford	43 47 43 57 43 16 43 53 43 40 43 40 44 5 43 44	7N 52 79 24 79 24	590 886 303 331 350 886 555	44 8 44 0 46 7 44 4 46 3 44 2 43 2 42 9	+ 17 + 36 + 42	18 37 9 73 9 1	75 4 80 0 85 0 75 0 76 7 68 0 72 0	24 25 25 25 25 16 25 24 25	24 4 24 0 25 0 25 7 27 0 28 0 25 2 25 0	19 20 20 20 20 20 20	10 9 16 9 17 8 18 1 17 8 16 0 18 9	1 45 1 45 1 45 1 46 1 50 1 40 1 22	r 1 21 +1 92 -0 37 -1 37 -	0 71 1 50 1 43 1 71 0 80 1 00 1 10	9 6 1 4 12 ————————————————————————————————	21 29 20 18 20 20 20		3 . 3	2
East-Central Counties																			
Baneroft Halburton Kinnount Lakefield Lindsay Madoe Norwood Paterboro*	45 1 44 45 44 25 44 20 44 30 44 17 44 54	77 50 8 28 78 38 78 15 78 45 77 29 78 19 78 18	1050 920 850 872 575 722	42 0 42 9 42 7 45 5 44 4 44 3 45 4	+ 4 0 + 1 5 - 0 0 + 4 5 - 3 6	22 24 14 30 9 1 43	\$3 0 \$2 0 \$3 0 \$3 0 \$3 0 81 0	25 25 25 25 25 25 25 24 24 24 25	19 0 4 0 20 0 22 0 22 0 13 5 22 0	19 15 19 20 20 21 1 20	23 2 27 0 23 0 24 4 19 2 20 8 22 9	2 20 1 75 2 35 2 96 1 01	-0 11 +2 05 +1 15	0 91 0 93 1 01 1 50 0 90	5 507 5	25 25 20 23 23 23		2 2 2	2
QUEREC-																			
Middle St. Lawrence																			
Bromo Cap Rouge Cedur Rapids D'Israal Montreal Quebec Sto Anno de Bellevue Shawingan Falls Shetbrooke	45 10 46 46 45 55 45 30 46 48 45 27 46 34 45 32	72 36 71 15 71 21 73 35 71 13 73 59 72 43 72 5	678 132 896 187 296	42 7 39 4 42 9 45 5 40 4 44 6 35 7	+ 3 2 + 4 0 + 3 3 - 0 1	32 1 35 38 4 10	\$2 0 \$3 0 \$3 0 \$3 4 \$7 0 \$6	25-26 26 25-26 25-26 25-27	12 0 15 2 10 0 21 5 13 0 21 2 7 0	9 9 1 1 H 9 20 7	24 0 19 8 22 3 17 9 19 1 2 1 4 24 1	2 27 2 26 2 4 4 46 1 73 2 97 1 9	+ 0 70 + 0 14 + 0 30	0 95 9 87 0 56 1 18 0 96 0 51	5 10 5 10 10	24 20 22 23 24 24 20	1	1	1
Lower St. Lawrence & Gulf																			
*Anticosti E. Pt Anticosti, S.W. Pt Anticosti, W. Pt *Anticosti, W. Pt *Bicquet *Cape Chatte *Cape Magdalen Father Point Ste Anne de la Pocatiere	49 6 49 52 48 25 49 6 49 16 48 31 47 22	61 42 64 32 68 53 66 45 65 20 68 19 70 2	30 30 93 20 65	32 0 32 3 32 8 36 9 34 3 35 8 36 8	$\begin{array}{c} +\ 4\ 5 \\ +\ 1\ 1 \\ +\ 0\ 8 \\ -\ 0\ 1 \\ +\ 2\ 2 \\ +\ 3\ 1 \\ -\ \end{array}$	25 31 30 30 31 35 1	47 0 71 0 55 0 65 6 48 0 59 0 62 0 82 2	26 26 25 26 26 26 26 25	23 0 15 0 18 0 19 0 20 0 20 0 19 0 8 8	11.71.11.2.871.7	10 0 - - 13 4 14 2	0 88 1 73 2 65 1 52 1 41 2 11 1 12	0.78 -0.01 -3.37 +0.15 -1.49 +0.15	0.45 0.66 0.70 0.70 0.80 0.60 0.05	4	27 23 26 22 21 19	ı		1 2
Lake St. John																			
Chicoutimi Chicoutimi (2) Lake Edward La Tuque Mistassini Roberval	48 25 47 39 47 27 48 54 48 31	71 5 72 15 72 48 72 15 72 13	150 1333 520 360 352	34 2 35 8 35 0	= = = = = = = = = = = = = = = = = = = =	34 4 2	57 0 \$1 6 \$2 0	27 25 27	15 0 0 4 5 0	,	25 4 21 5	4 70 1 67 1 8	=	0 48 0 48 0 21	-,	25 21 23	6		
The Northwestern Districts																			
Abitibi Manouan Crossing Waymontachingue (Dam A) White Shore Lake	48 33 47 54 45 12	79 22 73 50 75 43		34 O	+ 1 6		69 0 81 0	24 25	1.0		21 0 2 c c		+0 37	0 DT 		21			
The North Shore																			
Clarke City	50 10	66 25																	
NEW BRUNSWICK— Chatham Dalhousie Fredericton Moncton Point Lepreaux St. John St. Stephen Sunsex Williamsburg	47 3 48 4 15 57 46 9 45 4 45 17 45 11 45 38	65 29 66 22 66 36 64 45 66 28 66 4 67 16 65 38	21 39 164 50 30 70 35 96	41 7 37 5 42 7 41 4 39 0 40 1 41 9 43 2 39 3	+ 3 9 + 4 5 + 4 3 + 2 8 + 1 8 + 0 6 + 2 7	33 40 15 35 40 16 16	\$5.0 \$1.0 \$3.0 79.0 \$5.0 61.4 \$2.5 \$0.0 \$5.0	25 25 25 25 25 25 25 25 28 28 26 27	14 0 16 0 15 0 13 0 19 0 19 3 17 0 12 0 12 0	9	21 × 19 1 21 6 19 1 19 1 12 9 21 1 20 1 22 1	2 06 1 1 2 10 7 2 2 2 7 2 2 1 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 2 7 2 3 7 2	-0.17 0.43 +0.14 0.08	0 59 0 30 0 54 0 80 0 80 0 75 0 65 0 96 1 20	5 10 7 6 15 5	20 25 23 24 15 25 26 15		1	1 5 2

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, APRIL, 1913.

\*Stations not furnished with Registering Thermometers

								ERATUE	- I			PREC	TPITAT	IoN					_
STATION	Latitude	Longitude	Elevation above sea level, in feet	Мезп	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range	Amount	Difference from average	Heavest fall in month	Days with .01 or more	No of fair days	No. of Auroras	No of thurderstorms	No. of fegs
NOVA SCOTIA-	. ,																		
Advocate Antigomeh Halifav Kentville Kentville (2)	45 38 44 39 45 3	63 36	50 88 40	41 6 42 7 40 1 41 9	+ 2 6	$\frac{3}{38}$	82 0 82 3 75 0 77 0	28 26 26 26	14 0 21 6 16 0 19 0	9 10	21 5 18 7 17 1 15 3	6 78 5 54 4 28	+2 26	1 40 1 79 0 70	16 9 16	14 21 14		1	1
Merigonish New Germany Partshoro' Port Hastings	45 23 45 39	64 19 61 22	40 45	43 6 37 6	+ 0.2	2 21	\$1 o	27 • 25	19 0 16 0	10	20 8 13 3	4 59 11 77	+> 58	1 98	5	25 22		1	::
*Sable Island, E. Pt Sable Island (Main Station) Sydney Truro	43 58 43 57 46 10 45 22	59 46 60 6 60 10	25 25 35 77	38 8 39 6 41 2	+ 2 8 + 3 4	39	52 0 74 0 73 5	28 30 25 28	26 0 24 5 45 0		9 6 15 8 18 5	3 40 3 37 6 98	0 45 0 74 +4 14	0 66 0 82 1 12	14 13 13			1	8
*Whitehead Windsor Wolfville Yarmouth	45 15 44 59 45 7 43 50	61 8 64 6 64 20	20 90 65	43 0 42 7 42 1	+ 4 2 + 2 7 + 1 9	11 14 32	79 0 76 2 67 7	27 26 28	21 0 20 7 25 6	8	16 0 15 9 12 4	5 98 3 60 4 98	+2 70 +0 86 +1 16	0.65	14 12 17	16 18 13		1 1 2	1 3
P. E. ISTAND— Charlottetown Charlottetown (Exp. Farm) Hamilton	46 14 46 14 46 25	63 7	38 75	40 0 40 2 39 8	+ 2 9 + 4 2	37 3 15	74 0 78 8 78 0	26 26 27-28	21 0 17 5 23 0	8	15 2 17 6 15 6	3 91 3 87 1 37	+1 26 -1 56	0.78	17	15 13 23		I	1
Newfoundland— *Amour Point Burin *Cape Norman	51 28 47 0 51 38	56 51 55 10 55 52	27																
Fogo Point Riche Port any Basques St. George's	49 43 50 42 47 35	54 17 57 25	30 35 27	29 6 33 7 37 2	_	31 -5 20	45.0 58.5 65.1	28 26 29	10 0 20 5 20 2	4 5 5 10	9 2 I	0 59 3 65 2 08	+0 20	0 40 0 71 0 62	15 16	26 15 14			1 7
St John's	17 34	52 42	125	39 4	+ 4 0	40		27	21 0	5	15 1	3 92	-0 43	0 68	16	14			2
Labrador North West River Sermuda—																			
Prospect	32 17	64 46	151	62 7	- 18	23	73 8	30	49.8	- 10	12 0	1 94	-2 96	. 0 56	13	17	×.	_1	

PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER. A DURING APRIL, 1913.

STATIONS.	A		UNFAL	L.		1	SNOH			0.000
51 A 1 10 N 5.	Amount in inches.	No of Days 01 or over.	Fair Days.	Heaviest Fall in Month.	Date	Amount in inches.	No of Days	Heavier Full in Month	Date	REMARKS
RITISH COLUMBIA—										
Alkali Lake Annis (Cunoe Point)	0.44	. 6	24	0 00	5	1.0	1	1 11	25	
Armstrong Beaver Lake	0.74	5	25	0 20						
	3.61	8	22	1 24	25 5					
Coquitlan Cariboo Roud No 141 Denman's Island Ferguson Goldstream Lake Hudroules	2 13 1 15	9	21 20	0 61	5 21	11 0	ts		3.1	
Goldstream Lake . Hydraulie	1 92	15	15	0.41	21					
Hydraulic Hornby Island Invermere	1 50 1 60	16	14 26	0 35 1 10	5-9 21 21	1.5	2	1.5	27	
Jordan River	1 60 2 35 3 51	14 16	16	0.78 0.73 0.25	21	0.2	1	10.2	5	
Little Onalicum	1 46 0 69	11 5	19 25	0 25 0 31	12 6					
Lumby Monte Creek Nans Harbour Rock Creek	5 77	16	14 27	1.00	23					
Rock Creek Shawnigan Lake Wycliffe	0.64	3		0.46	4					
Wycliffe	1 43	4	26	0.35	13-20					
LAERTA-										
Bardo . Bismark .	0 15 I	1	28 27	0 15 T	22 26	1 0 5 0	1 2	1 0 4 5	21	
Bruederheim Bittern Luke						0.8	1	0.5	20	
Brooks Beaver Mines.	0 16 0 14	1 2	27 25 25 23 23	0 16 0 08	22 16	2 3	3	1 U 4 5	29	
Coleman Cowley Cnidwell	0.02	1 2	25 23	0.02	21 16	6 0 14 5	4 5	8.0	29	
Cnidwell	0.02	1	25 26	0 02 0 20	16 16	6.0	4 3	4.5 3.0	29 25	
Claresholm Dorenlee (Bashaw) Dunstable (Five Lakes)	9 05	1	23	0.04	21	1 0 8 2 5 0	1 6 2	1 0 4 5	30 25 29	
Grassy Lake Jumping Pound	0.15	1		0.15	29	5 0	2 2	4.0	28-29 28-29	
Loch Sloy. Lyndon Lineham	0.80	1	28	0.80	16	1 4	1	1 4	29	
Lineham La Pearl Lethbridge	0.12	2 .	28	0.10	22	1 4	1	*	30 25	
Macleo I	U 16	1 1 2	28 25 27 24	0 16 T 0 25	16 15	3 5 6 0 3 2	1 2	3 5 4 0 1 8	29 29 28	
Mayeron Mountain View Mannville (Roycroft Ranch)	0 27 0 17 0 17 0 23	1 2	26 27	0 25 0 17 0 23	16 16	8 0 0 5	3	5 0	29 30	
Natedy	0 16	1	29	0 16	22 16			0.7	30	
Okotoks Pekisko Ponoku Sion	0.49	9		0.46		8.3	3	4.0	9%	
Ponoka	0 15	ĩ	$\frac{25}{24}$	0 15	25 22	3.0	3 5	1.0	28 26	
Seven Persons	1 15	2	25	0.60	16					
Writing-on-Stone (Coutts) Waterton Mills	0 21	2 4	27 23	0 19 0 22	16 21	4 3 11 0	1 3	4 3 6 5	30 30	
ASKATCHEWAN-										
1 h f - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				1						
Gull Lake. Gull Lake (Fks. Swift Cur.) Last Mountain Manle Creek	0.50	3 4	26 26	0 20 0 32	5 16	10 0 6 2	1 2	[0 0 6 0	30	
Last Mountain Maple Creek		ţ *		J 32	- `					
Maple Creek Meadow Lake Nashlyn (Kelvinhurst) Willow Creek (Battle Cr.)	0.52	4	26	0 42	17	*	2		30-31	
Willow Creek (Battle Cr.) Wapashoe	0.70	4 2	24 27	0 43	30 17	0.8 6.0	2	0.5 6.0	21 30	
ANITORA—		_			.,					
Cartwright .	1 25	4	25	0.80	16	2.5	1	2.5	î	
Deloraine Norquay (Swan Lake)	0.33		24	0.16	18	2 5 2 U	3	2 0 2 0	7	
Norquay (Swan Lake) Rapid City Rose Bank	0.29	3	26	0 19	20	2.0		2.11		
NTARIO -										
Brantford(Bow Park Farm. Deer Park	4 13	6	24	1 40	3					
Dutton	1 30	6 5 3	24 25 27	1 40 0 77 0 80 0 77	1 5	1.3		0.5	1-6	
Emadale. Fort Frances Georgetown Grantham .	4 13 2 54 1 30 2 83 1 10 3 92 3 63	5 10	18 25 20 21	0 46 1 07	23	1.5				
Grantham . Grand Valley	3 63		21	1 20	3 4 4	* '	- 1	*	6	
Grand Valley  Hillier  MacCue  Princeton  Represent	4 04 2 30 2 41	1 8 5 6	23 25 24	1 28 0 60 1 30	27					
Princeton	_ 11	L			1					
Renfrew Sydenbam Strathrov	3 95	2 7 5	28 23	1 35	3 3 3	0.5	1		6	
Strathroy Watford Westport	3 95 3 02 2 35 3 97	5 6	25 22	1 35 1 18 1 22 1 20	3		- 0	2 5 2 0	3	
Westminster Wooler Weslev	3 97	6 1	25	1 31	4	3 5 2 0	Ĭ	2.0	б	
Wattenwyl										
Wiarton	1 3.78	5	25	2 00	4					

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING APRIL, 1913.

		10	AINFAI	.L.			SYOW	FALL		
STATIONS	Amount in inches		No of	Heaviest Fell in Month	Date	Amount in the inches	No of Days	Heaviest Fall in Month	Date	REMARKS
frebec-										
Bark Lake (Rivnere Desert) Kipawi Dam Lucerno Perkins Mills Quinze Dam Timiskaming	1 42 1 52 1 73 2 32 1 25	4 5 	23 23 24 26 25	0 69 0 90 1 00 0 97 0 76	12 27 4 27 27	1 2 4 0 11 0 2 5 4 0 2 3	3 2 2 2 1 1	0 6 2 5 9 0 2 0 4 0 2 3	6 4 4 3 6 3	
New Brunswick-										
Point Escumanae	0.17	4	25	0.06	30	4.2	1	4 2	6	
Nova Scotia-									11	
Big Mushamush Lake (Ma- hone) Kentville Milton	6 (II) 4 87	12	15 24	1 45 1 81	 1 14	7 0	4	3 11	6	
Mushamush River (Mahone) Nappan	3 01	8	20	0.98	14	4.5	2	3.0	7	
South Alton White Rock	3.06	4	23	1.73	13	5.3	1	6.0	6	

# PRESSURE, HUMHDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE

#### MONTH of APRIL, 1913.

a Barometer not reduced to sea level

-																									
				7.2		1,	111244	· RE		humidity	cloud	mpletely			Dit	ET III	15 H	1/17	l Fi	D'U				WIND_	) P
STATION .			Longitude W	Llevation above se level, in feet	Mean reduced.		Hughest.	Lowest.	Kange.	Mean relative but	Έ.	No of days comp	<u>z</u>	NE	<u>_</u>	÷ 7.	<i>I.</i> —	* x .	= .	-> W.	¦ C.	Fotal number of   observations	Mear miles per hour	Maximum	Date and direc-
Atin Barkerville Kambops  a Nanamo Prince Rupert Trangle Island Vancouver Vacouver	59 53 50 49 54 50 49 45	2 15 42 15 10 1, 18 15 52 1, 41 15	33 35 24 35 20 20 23 37 30 15 20 20 23 5	1215 125 170 680	29 5	69 3 64 3 12 3	33 38 38 38 38 38 38 38 38 38 38 38 38 3	2) 31 29 27 29 41 29 09 29 64 29 59	0 92 1 29 0 79	- 61 77 74 75	7 9 6 7	5 9 25	0 0 1 0	2 0 0 1 1 5	1 0 12 14 5	5 5 12 1	31 0 18 0	3 19 6 3	2 0 5 1	4 5 3 	31 31 33 10 3	60 60 60 60 60	7.7  8.0	34 :	 2°8W
YUKON— Dawson	64	4 13	39-20	1200		Ì																			
ALBERTA— Banff Calgary Edmonton Mcdicine Hat		10 11 2 11 33 11 1 11	15 34 14 2 13 30 10 37	4542 3389 2158 2161	29 F 29 S 29 F 29 F	15 3 87 3 88 3 88 3	7 24 . 7 24 . 7 29 . 7 27 :	29, 45 29, 23 29, 23 29, 25	0 79 1 01 1 06 0 99	61 54 63 54	.; 1 3	6 3 . 2 2	2 5 2 3	41 2 6 5	2 2 1	3 7 14 2	3 4 9 5	24 4 6 49	5 5 1	21 13 3	16 10 2 7	60 60 60 90	5 3 7 3	23 I 27 I	15NE 21NW
SASKATCHEWAN— Battleford	52 50 53 50 50	21 10 10 10 30 10	15 35 16 0 13 47	1620 1759 1432 2115 2439	2.1 5	13 31	341	29 12	1 22	82 61 67 68	3 4 4	3 3	5 10 5 2	2 5	6 22 8 0	16 8 13 13	2 1 57	6 10 7 21	2 6 1 8	9 8 9 21	12 20 0 14	60 90 60 90	11.7		?5NW
Manitoba—  "" "Aweme (St. Alban's)  Minnedosa  Le Pas  Winnipog	49 50 53 49	42 99 15 99 49 10 53 97	50 H 15	1180 1699 860 760				29-34 29-36		681	5 4	7 5	1	3 7	17	17 26	1 (0	- 6 - 5	8	15 12	16	90 90	11.8	34 1	17NW 88E
ONTARIO— COCHEMP CHAIRMANN COCHEMPA Haiteybury Kingston London London Unidsay Ottawa Parry Sound Port Arthur Port Stanley Southampton Stonecliff Toronto	49 43 47 41 42 44 45 45 45 48 41 46 43	2 \$1 33 80 29 79 13 76 59 81 20 78 26 75 19 80 27 89 40 81 39 81 9 78 40 79	16 39 27 13 45 42 0 12 13 21 6	285 808 872 294 635 644 592 656 557	30 1 30 0 30 0 24 1 30 0 30 0 30 0 30 0 30 0 30 0	4 31 6 31 6 31 6 30 8 31 6 30	52 2 47 2 50 2 55 2 55 2 58 2 58 2 58 2	56 56 10 62 10 66 10 67 10 63 10 57 10 58 10 73	1 90 0 83 1 93 1 95 1 95 1 95 1 97	68 66 78 76 75 75 65	5.244.544.554.5	10 7 8 8 10 5 10 25 8	22 3 3 19 12 4 24 4 14 0	1 33 16 11 2 12 6 17 12 0 9	5 1 4 8 10 137 17 3 11 11	26 6 1 6 4 8 21	8 8 8 8 8 8 9 9 9 9 9	5 8 16 12 11 20 20 2 3,	4 × 3 4 12 5 4 13 21 11	10 36 15 3 10 7 14 20 1	9 0 6 0 6 4 11 2 23 0	60 90 90 60 60 90 90 90 60	11 7 10 6 9 8 10 0 - 6 4 14 6	26 33 4 405 20 1 40 1	W NW
White River Woodstock	18 43	35 85 8 80						9 54 9 69			4 5	4 12	22 8	0 20	9	0 10	10.	17	10 6	10	13	59 i 90	10 3		E 9N W
	ļ							S 96		95	4	5	15	8	7	24	9	0	2	16	6	\$80	14 5	40 1	NW
Father Point Montreal Quebec Sherbrooke	48 45 46 45	31 68 30 73 48 71 32 72	19 35 13 5	187	30 0	1.30	57 2	8,96 9 41 9 23	1 16	86 52 67	5 4 4	9 7 8	7 20 6	7 32	16	3 4 0	3 21 3	12 19	29 10 16	11 12 7	0.0	90 90 90	13.7 13.8 11.7	54 1 4115 391	SW SW
New Brunswick— Chatham Fredericton St. John	47 45 45	3 65 57 66 17 66	29	164	30.0	0.30	48 2	9 09 9 20 9 25	1 25	79 82 76	6 7	7 10 11	1 15 18	13	25 1		11 4 19	1 ! 17 13	17 18 6	11 14 12	0 4 3	90 90 90	7 7 10 8	31 20 33 19	oW 9SW
Nova Scotia— Halifax Sable Island (MStation) Sydney Wolfville Yarmouth	44 43 46 45 43	39 63 57 60 10 60 7 64 50 66	36 6 10 20 2	25 35	30 0 2+9 23-9	0 30 5 30 8 30	50 2 39 2 61 2	9 31 9 44 9 29 9 27 9 38	1 06 1 10 1 34	\$3 76 \$2	7 6 6	11 10 14 16	5 0 10 7 5	17 1 14 6	4 4 1 4 1	4 4 1	0 - 10	6 22 10-	11 6 13 10	17 21 10	3 4 4 2 5	60 90 90 60 60	11 7 13 0 10 0 10 6	39.19	ONW
P. E. ISLAND Charlottetown .	16	14 63	10	38	214	6-30	37 2	9 23	1 14	89	ĩ	13		12	3	1	10	6	5	7	0.	60	6.6	25 1	sw
NEWFOUNDLAND Burin Fogo Port nux Basques St. Georgo's St. John's EBBUDA Prospect	47 49 47 48 47	0.55 43.54 35.59 27.58 34.52 17.64	17	125	29 8	30	33 2	9 33 9 33 9 3 <b>8</b> 9 87	1 95	 	7 6 5	16 12 7	13	4 7 4	25 19 5	1 2 5	1 3 3 23	- 17 - 30 - 17	5	10 13 1	5 0 2	60 60 60 90			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF APRIL, 1913

			DIR	ECTIC	ON OI	F W1	ND I			
STATION	ź.	N.E.	ы	S.E.	ò	S.W.	<i>&gt;</i>	N.N.	c.	Total num- ber of Obser-
ALBERTA—										
Athabasca Landing	2	1 0	3	2 3	5 3	4 12	6 2	7	0	30 30
Endiang						12		l		
Halkirk (Emsburg)	3	1 1	4 0	20	4 13	6	4	15 20	0	60 60
HillsdownLoveland	2	5	0	10 17	1	13	9	13	0	60
MacleodPakan (Victoria)	5	0	1	()	3	()	39	0	12	60
Ranfurly (Waitefield)	14	1	9	14	8	3	I 1	12	13	90
Saskatchewan— Chaplin	2	2	.1	5}	1	2	3	7	0	30
Crescent Lake	2	3	0	4	ıi	3	2	4	ĭ	30
EstevanFort Qu'Appelle	0	2 3	10 13	2 18	$\frac{2}{1}$	2 3	7 10	11	0	30 60
Grenfell (Brownhill)	0	6	1	19	5	18	1	10	0	60
Indian HeadLarchmount (Glenbryan)	10	3 7	4 7	21 10	19	8 14	7 13	11	7 0	90
Moosomin										
Muenster (St. Peter's Monustery) Onion Lake	4	1	2	14	23	4	5	5	2	60
Pense (Gatesgarth)	4	0	0	9	0	0	5	4	0	22
Waseca	0	0	3	7	1	2	11	6	0	30
Berens River		4 :								
Brandon	$\frac{2}{2}$	11 5	9	16 33	1 3	9 19	6 7	10	16 0	80 90
Moose Horn Bay (Aitkensville)	10	6	1	13	9	4	2	. 5	10	60
Morden Oak Bank	14 16	4 1	7	9	2	6 11	8 2	1 7	6	60
Stony Mountain.										
Ontario —			4					0.5		
Agincourt	12	0	18	(i	2	18	6	27	i	1 90
Beatrice	13	3	0	8	5	5	3	28	25	90
Birnam	24	- 5 - 4	5 6	3 5	12	1 3	4 9	3 16	3 2	60 60
Cottam	28	4	3	5	, 13	2	5	0	0	60
Gravenhurst	24	4	4	13	7	3	14	7	14	90
Orillia	6	2	0	2	3	3	9	5	0	30
Owen Sound	24	3	7	3	17		4		0	60
Port Dover	7	3	2	2	2	3	5	6	0	30
Stoney Creek	6	13	22	5*	2	16	20	6	. 0	90
Wexford	3	0	2	2	0	2	3	11	7	30
Ouebec-										
Abitibi	28	3 13	13	0	20	4	19	3 16	0	90
Anticosti, W. Pt. Anticosti, Heath Point	11	13 22	10 7	4	23	24 24	11 10	5	11	90
Bicquet	6	26	0	()	10	9	15	7 3	17	90
Brome Cape Chatte	28 5	8	19	1 0	15 3	. 4	34	2	17	90
Cape Magdalen	7	4	7	3	13	2	7	41	6	90
Cap Rouge Chicoutimi	18	4 25	0	0 3	0	0 11	0	8 25	0 25	30
Clarke City										
Manouan Crossing									[	
New Brunswick –										
Dalhousie	1	0	11	2	0	1	14	1	0	20
Moneton	1 10	6 9	1 12	4 5	3 2	1 15	13	10 12	0	30 78
Sussex	0	3	0	0	ō	3	0	2	22	30
Nova Scotia-										90
Kentville Parrsboro	1		8	()	5	3	6	6	0	30
Port Hastings	0	4	0	11	2	9	0	4	, 0	30
Sable Island, E. Pt	22	12	3		14	14	14		4	90
Whitehead				-				1	•	

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF APRIL 1913. HOURS Ending

									Нот	BS ENI	480							
STATION	4 a m	5 n m	6 a m.	7 a.m.	S a m	9 a m.	10 a m	11 a m	Noon	11	E d	g 4	E	o p m.	6 p.m.	7 p m.	8 p m	п 16
Victoria				.64	34	41	37	44	46	55	50	10		26	12			
Salmon Arm			06	28	52	ńń	67	67	70	69	60	63		55	28	07		
Vancouver			07	27	3.5	41	45	52	49	4.5	46	10	11	Sh	. 25	02		
Agassiz				10	26	43	52	4.1	52	45	4.5	40		24	0.5			
Tranquille																		• • •
Summerland.			04	33	55	63	66	68	64	67	67	69		55	42	02		
Kamloops .				63	30	53	55	53	60	63	57	49	4.3	2.3	T			
Harper's Ranch		0.2	09	21	51	59	60	61	61	59	59	57	.56	21	07			
Edmonton			04	33	60	71	79	<b>\1</b>	75	7.5	7.7	70	72	51	14	02		
Lethbridge.			02	40	56	65	67	70	72	76	7.5	7.4	62	54	31	01		
Lacombe			01	30	71	83	85	81	8)	55	83	81	7.5	78	34			
Medicine Hat																		
Fort Dunvegan																		
Fort Vermilion			09	31	50	54	65	71	711	ris.	69	115	59	50	23	02		
Battleford				08	38	70	7.5	74	7.4	79	55	79	7.7	66	22			
Indian Head.				03	36	63	bti	ti"	65	159	r:1	53	5.	26	05			
Moosejaw			()**	37	54	70	70	6.3	63	66	0.1	67	66	56	28	02		
Scott		08	37	64	70	71	70	65	76	72	71	72	65	36	12	01		
Rosthern			0.5	15	44	58	65	61	h7	69	71	150	64	53	23	05		
Brandon				19	h2	69	70	7.7	7.5	68	62	63	52	35	0.2			
Winnipeg				05	45	59	63	72	74	7.3	73	70	64	52	.25			
Haileybury			06	47	54	61	62	+3	69	69	69	67	67	63	55	14		
Woodstock			191	07	41	59	64	65	68	65	66	64	58	4-4	12			
Lindsay				15	43	56	63	63	60	bb	69	63	10	57	25			
Barrie																		
Toronto			02	29	49	57	61	63	84	64	65	07	64	60	4.2	0.1		
Kingston			03	16	44	47	57	67	70	67	67	66	561	52	26	03		
Ottawa			02	29	45	46	54	64	75	78	71	72	7.4	66	48	09		
Montreal			.06	40	53	60	f,6	72	73	75	.73	. 73	72	65	43	T		
Cap Rouge			02	27	51	55	56	55	62	62	61	61	65	62	41	.02		
Quebec				18	46	52	54	55	56	58	1911	h2	68	64	37	04		
Ste Anne de la Pocatiere		06	33	49	57	55	55	61	62	62	611	55	56	4.5	07			
Sherbrooke																		
Fredericton			03	.39	44	49	47	50	54	52	4''	46	35	33	26	04		
Charlottetowa				09	36	38	39	46	50	45	4.1	47	43	31	12			
Nappan				11	26	35	35	3.1	43	48	44	43	43	35	30	10		
Wolfville			01	29	42	.49	50	47	44	48	43	41	37	37	28	04		
Kentville				10	30	4.5	46	45	42	41	4.5	40	37	36	32	13		

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offivineM		15	1	9		
siliziloW	150		ł	5.	24 11.00	ę
Zappan	<u> </u>				5	
Charlottetown.	22		1	57		
Trulericton.	2	ŝ	1.	2	7	
Sherbrooke						
Ste. Anne de la Pocutiere	8	Æ	1	8	=	
Grepec	120	7	+	\$	81	9
Cap Bouge.	38	5	1	8.0	8	22
Montreal	2	9	7	\$	17	C1
0.20110	ŝ	13	+	5	Ξ	C.
uctsaniM	3	4	C 4	3.	<u>.</u>	1.3
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Son-hon II	Z	<u> </u>	+ 1	Ĵ	ž.,	÷
Hanley bury	138	,ź.	<u> </u>		Ž	
Z-efruur (/	- 86	·· <u>-</u>		7.		0.5
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Rosthern	102	6	+	7	2	— e-
11008	33	15		3.	5	
Moose law		8		9	21	
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besH ambal	27.7	15	17	2	Ξ	=
broadmid	5 19 18	4		7		
northurra / tro/l	54		I			
Fort Dunyegan						
Medicine Hat.	-	~		6	**	
мит эк.1	- 58	2	1			
1 ethbridge.	- 5	19		ž.	11	1
aoraorab.1	- 8	- 5	. 1	- 7	-	C.
Harper's Ranch		=		K	-	
Panhun-	<u></u> =	Æ	- 1	F.	^+	
purpourous;	ŝ	61		Ξ	-1	-
Lianduille						
Attental.	5	~	+	ī.	- 1	27
7 ипеоать Р	Ē	é	1	ŝ.	ě	k.;
oury nomps	= 5	- 5	1	7	***	-
инотак	128	77	==	1.5	1.	21
	Depistered duration a hours	Percentage of pos- sible duration .	Difference from average	Maximum percent- age in one day .	into of maximum	completely cloud- ed

SUMMARY OF SUNSHINE RECORDS

#### Thunder recorded:

- 1. Haliburton, Clemens
- 2. Birnam. Cottam.
- 3. Elora, Paris, Clinton, Lucknow, Brantford, Westminster, Georgetown, Brantford Park), Cottam, Port Stanley, London, Port Burwell.
  - 4. Wiarton, Westport, Port Arthur.
- 5. Victoria, Summerland, Okanagan Mission, Clemens, Campsic, Vavenby, Koenigs, Fort St. James, Sion, Lunnford.
  - 6. Medicine Hat, Lumby.

  - 10. Port Arthur.
  - 11.
  - 12.
  - 13. 14.
  - 15. Kenora.
  - 16.
  - 17, Schreiber, Bruce Mines, Emsdale, Port Arthur.
- 18. Agincourt, Beatrice, Elora, Ronville, Montague, Port Dover, Haliburton, Clinton, Lucknow, Brantford, Peterboro, Wexford, Orillia, Brome, Shawinigan Falls, Deer Park, Hillier, Georgetown, Westport, Quebec, Montreal, Ottawa, Kingston, Parry Sound, Lindsay, Hamilton, Madoc, Goderich,
  - 19. Markdale, Peterboro, Brome, New Germany, Westport, Fredericton, Ottawa.
  - 20, Westport, Williamsburg, Chilliwack, Gull Lake.
  - 21. Schreiber, Cartwright, Brantford, Banff, Edmonton, Revelstoke, Ranfurly,
- 22. Haliburton, Clinton, Lucknow, Brantford, Birnam, Westminster, Port Arthur, Quatsino. Perry Siding, Goderich.
- 23. Agincourt, Elora, Rutherglen, Kakabeka Falls, Madoc, Bruce Mines, Haliburton, Paris, Clinton, Lucknow, Brantford, Wexford, Birnam, Deer Park, Georgetown, Emsdale, Port Arthur, Guelph, Hamilton.
  - 24.
  - 25. White Rock, Fredericton, Bermuda
  - 26. Montague, Westport, Emsdale, Ottawa, Kingston, Lindsay, Terrace, Springdale,
  - Westport, Bark Lake (River Desert), Halifax, Crescent Lake, Fort Qu'Appelle.
     Moneton, Cartwright, Windsor, N.S., Truro, Wolfville, Armstrong.

  - 29. Treherne, Oakbank, Charlottetown, Winnipeg.
  - 30. Treherne, Oakbank, Cranbrook.

#### Auroras recorded:

- 1. Melfort IV. Sion IV, Fort Vermilion.
- 2. Fort Vermilion.
- 3. Mistassini IV, Sion IV, Fort Vermilion.
- õ.
- 6.
- 7. Mistassini IV.
- 8. Lucknow IV, White Shore Lake IV, Edmonton III, Pambrum, Waseca, Clemens IV, Ranfurly IV, Halkirk, Campsie IV, Peace River Crossing.
- 9. Cape Magdalen, White Shore Lake IV, Mistassini III, Quebec IV, Haileybury III, Clemens IV, Ranfurly IV, Beaver Lodge II.
  - 10. Mistassini III, Aitkensville IV, Haileybury, Pambrum II.
  - 11. Aweme IV, Kakabeka Falls IV, Mistassini IV, Aitkensville IV, Clemens IV, Hillsdown IV,
  - 12.
  - 13. White Shore Lake IV, Aitkensville IV. 14. Aitkensville IV, Ranfurly III.
  - 15. Mistassini IV, Brantford.
  - Atlin III.
  - 17. Qu'Appelle, Edmonton III.
  - 18. 19.
  - 20.

  - 21. 22. Aitkensville IV.
  - 23, 24. Ranfurly II, Sion III.
  - 25,
  - 26, Aweme II.
  - 27. Sion III.
  - 28. Sion III.
  - 29. Georgetown IV.
  - 30,

#### FORECASTS FOR APRIL 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1200. These were divided as follows:—

				Verified.							
District		Issued.	No. Fully.	No. Partly	No. Not	Per certage					
Alberta			71	6	1	94.9					
Saskatchewat		78	+1	15	2	87.8					
Manitoba		75	64	11	3	89.1					
Lake Superior		110		24	4	85.5					
Lower Lake Region		112		13	4	** *					
Georgian Bay		110	91	12	7	88.2					
Ottawa Valley		93	76	13	4	55.7					
Upper St. Lawrence		94	75	13	3	59.9					
Lower St. Lawrence		97	76	17	4	87 1					
Gulf		114	*1	21	12	\$0.3					
Maritime Provinces West		115	91	23	4	86.9					
Maritime Provinces East		115	53	27	5	41.8					
Total		1200	947	195		57 n					

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, May 23rd, 1913.



### DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

MAY, 1913

No. 5

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau. Washington, D.C.

### TEMPERATURE

### BRITISH COLUMBIA.

Mean temperatures showed great irregularity as regards difference from average. On Vancouver Island, at the mouth of the Fraser, in the Okanagan Valley and the Kootenays the difference was less than 1°, but in some cases positive and in others negative. Elsewhere in the Province mean temperatures varied from 1 to 4 below average.

### WESTERN PROVINCES.

The differences from average temperature were generally negative and about 1. There were, however, many local exceptions showing the average to have been exceeded by less than 1 and, especially in Manitoba, a few instances of negative departures from average between 2 and 3. Sharp frosts occurred frequently until the 13th. Maximum temperatures of 60 were recorded on the 18th, the weather continuing warm from that date until the end of the north, 90 was recorded in many districts on the 25th.

### ONTARIO.

In nearly all districts of the province mean temperatures were about I less than average. At a few points, however, the average was exceeded by less than I, while on the Ottawa River, in the Georgian Bay and Lake Huron Counties the negative departure from average was more than 2. Snarp frosts on the 16th and 11th did some damage to early vegetables in the scatnern counties. Temperatures of 80° were recorded during the first five days of the month, but I can the 7th to the 29th the weather was very cool, maximum temperatures not often eye. 31:25th

### QUEBEC.

Along the Middle St. Lawrence mean tempera ares were it is stage and along the lower St. Lawrence and Gulf 1 to 4. The first week was warm tempera it is ending 50 on the 401.5th and 6th. The remainder of the month, however, was consistent viewed on the 15th was heavy, minimum temperal its stage and along the lower ding 50 on the 401.5th and 6th. The remainder of the month, however, was consistent viewed at the 40 on 7 to 9 days. The frost which occurred on the 15th was heavy, minimum temperal its stage of the varying from 11 to 25.

### MARITIME PROVINCES.

Frost was recorded on the 10th, 15th to 18th, and the 21st. Maximum temperatures were less than 50 on many days, seldom exceeding 60. The general difference from average was negative and about 3.

### PRECIPITATION.

### BRITISH COLUMBIA

Precipitation was well above average on the Fraser River and generally in the Okanagan Valley. In the East Kootenay the average was not exceeded, while there was a deficiency on Vancouver Island, in the West Kootenay, and along the Thompson and the North Columbia Rivers.

### WESTERN PROVINCES.

Snow or rain was recorded on an average of 6 days only, while the total amount was very considerably below average,

### ONTARIO.

Except locally in the District of Thunder Bay and along the Lower Ottawa River, the total precipitation was considerably less than average, falling on about 7 days.

### QUEBEC AND MARITIME PROVINCES.

Near the confluence of the St. Lawrence and Ottawa Rivers there was a small excess over average precipitation, but from Quebec City eastward to Chaleur Bay there was a small deticiency. In New Brunswick and Nova Scotia an excess of 25° was generally recorded, but there were local exceptions showing deficiency.

### HIGH AREAS.

Eight areas of high pressure were charted. Two first appeared on the boundary line between Alaska and British Columbia, two far to the northward of the Western Provinces, and four on the coasts of the North Pacific States.

Six of the areas passed either over or to the northward of the Great Lakes, while the remaining two drew southwards to the region of the Gulf of Mexico. The systems were for the most part net very pronounced, but attended by very cool conditions causing unseasonably low temperatures to prevail in all portions of the Dominion for a large portion of the month.

### LOW AREAS.

Nine areas of low pressure were sufficiently defined to allow of their paths being traced. Three first appeared in Northern British Columbia, one in Northern Alberta, two in the West and two in the South Pacific States, and one to the northward of Lake Superior.

The areas were all of feeble energy, except the one which appeared in Lower California on the 25th, which although feeble when drifting across the continent, yet when reaching the Middle Atlantic States recurved northeastwards and suddenly developed musual energy, passing between the 29th and 30th over the Maritime Provinces and Newfoundland as a severe storm. Its attendant gales were very a nerally experienced throughout Eastern Canada.

### ATMOSPHERIC PRESSURE

The values of the mean atmospheric pressure at the Telegraph Stations indicate that during May the harometer readings exceeded the average throughout Canada, except in Nova Scotia and Prince Edward Island, where values were subnormal. Positive departures were generally more than 0.05 of an inch, and reached 0.10 of an inch in Northern Alberta and 0.09 of an inch in Ontario. Negative differences in Nova Scotia reached 0.05 of an inch, and in Prince Edward Island 0.02 of an inch.

### FREE AIR DATA

### REGISTERING BALLOON ASCENT AT WOODSTOCK

Hat. 43 8' N , Long. 80 47 W) on May 6th, 1913-

Instrument—Dines Meteorograph. Beginning of Ascent—1 a.m. G M.T.

Barometer - 740 mm. Temperature = 22.0 C.

Direction of flight at Beginning -Northeast-

Feil 1451 m distant, N. 65 E. Waximum Height 20.1 km. Minimum Temperature 68.5 C.

Height in km. above S.L	Pressure in mm.	Temperature in C	entigrade de <b>g</b> re
G. L. = $0.3$	740	22 <b>0</b>	
0_5	703	21 5	19.5
1.0	663	18 0	17.0
1.5	624	14-0	13 5
2_0	587	10 0	9 0
2.5	552	6 0	5.0
2.8	530		3.0
3.0	518		1.5
3.3	502		0 0
3.5	488	0.0	2.0
4.0	458	- 4 0	6 0
4 5	430	- 8 0	9.0
4.8	412	-1	1.0
5.0	402	-1	2 5
5.15	¥95	- 12 0	-14.0
5.45	380	-12 0	-15.0
5.5	377	13 0	-15.0
5.6	374	-13.5	-14 5
6.0	353	15.0	-16.5
6.5	330	$-18^{-0}$	19_0
6 6	326	-1	9.5
7.0	308	-22 0	-23.0
7.5	287	-25.5	-26.5
8.0	267	-30 0	31.5
8.5	249	-33 5	-35.5
9.0	231	-37.5	-40.0
9.5	214	42.5	-47.5
10.0	199	-46.5	-50.5
11.0	172	-54.5	-57.5
12.0	145	63 0	<b>-65.5</b>
12.6	132	—6	67.0
12.9	126	—6	67.5
13.0	124	-67 0	-67.5
13.15	120	66. <b>5</b>	-68.5
14.0	104	61.0	-62 0
14.5	95.5	-6	50.5
15.0	88	-60.0	—61. <b>5</b>
15.6	80	-59.0	60.0
16.0	75	- 59.5	60.0
17.0	63.9		60.0
18.0	54 4	:	58 5
19.0	46.3		58.5
20.0	39-8		59.0
20.1	39	— <u></u>	9.0

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8' N., Long. 80 47' W.) on May 9th, 1913.

Instrument—Dines Meteorograph,
Beginning of Ascent—1 a.m. G.M.Γ.
Barometer—743 mm.
Temperature – 2.0 C.
Direction of Flight at Beginning—South.

Feil—310 km, distant S, 80° E, Maximum Height—16.0 km, Minimum Temperature = -57.5° C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	Contigrade degrees
-			
G.L. 0 3	743		2.0
0.5	723		1.0
0.7	708	2.0	- 3 0
1.0	680	_	3.5
1.5	638	4.0	- 6.5
2 0	599	- 6.0	- 8.5
2/5	560	- 8.0	- 9.5
3 0	524	- 9.5	-10.5
3 5	191	-11.0	-12.5
4 0	460	14.5	-15.5
4.5	429	-18.0	-19.0
5.0	403	-20.5	-21.5
5.5	375	-24.0	-25.5
0,0	350	-25.0	27. <b>0</b>
6.5	327	-27.0	30.0
7 0	304	-32,0	-33.0
7.5	283	-36.5	38.0
8.0	263	41 0	-42.5
8.5	243	-45.5	-47.5
9_0	225	-50.0	-51.5
9.5	209	-53.5	-54.5
10.0	193	56.0	56.5
10.2	187	-5	67.0
11 0	165	5	66.0
12 0	142	-54.0	-55.5
13 0	122	-53.5	-55.0
14.0	103		52.0
15.0	88	5	57.5
16.0	75	-5	66.0

### WINDS, MAY, 1913

PROVINCES AND STATIONS	1 (1)	Greatest Mileage	Greate			-	hith D.		Canan
	Mileage	in 24 hours	Miles	Direction	Date	17.14	11.	Wie de	General Direction
BRITISH COLUMBIA									
Athn Prince Rupert	60.7	4.36							
Prince Rupert. Victoria Point Garry Vancouver	6153	398	24 20	W. 8W	1-1+		7		>W
Vancouver Kandoops	4145							1.,	Ε
LBERTA,									
Edmonton Caigary	\$12.5 40.57	303 241	21 10	W Z	30 2-25			.5	NW NW
SASKAICHEWAN.									
Batrleford Prince Albert.		150		~1 \t.	9.25				NW
Swift Current Qu'Appelle	72 -	371	25	~1.	10			23	NW
MANITOBA.									
The Pas Winmpeg	617.) 8.02	324 445	25	N. NW	12		15	13	NE NW
Intario.									
Port Arthur White River	7.	467	33	Ł	1.1		1	1.2	NE. NW
Cochrane Parry Sound.	62 - 52 -	37	26 22	W 811	21		6	1.3	ZW
Sou hampton. *Pelee Island	74	179	2.2	NW NE	20		5	18	118
Woodstock	115	355 451	4.2 2.7	ZW	18		3	21	Z.M.
Toronto Kingston	8748	610	33 24	1. SW	15		17	a a	IV.
Stonecliffe Ottawa	3-51	PC	14	ii.	10		í	13	WE W
UEBEC.									
Montreal	96 +2	503	24	Ε	2		19	9	NW
Quebec Father Point .	9076 8211	5×2	37	.5/l/ ///	6 25		15	2	NE
Anticosti, SW Harrington	10124	262	58	7.F	11	1	15	9	E SE
SEW BRUNSWICK									
Pt. Escuminac	5.50	4 (1)	0.3	10	13		~		×1111
Fredericton St. John Pt Lepreaux	\$712	666 634	22 40 37	N N W	12 30 30	; 4	7 9 12	11 15 12	S, NW E
SOVA SCOTIA									
Yarmouth	чq,	:30							S, NE. N
Wolfville	\$519	550	40	$H^{2}$	30	1	17	13	NE
Sable Island Flat Point	11428 9167	748 770	50 34	NE, N	30 17-30	Ī	13	10	NE NE
RINCE EDWARD ISLAND									
Charlottetown	55.47	316	30	SE	311		1	19	SW. NW NE

<sup>• 23</sup> days only.

### TEMPERATURE AND PRECIPITATION AT STATION (IN THE DOMINION OF CANADA, MAY, 1913.

\*Stations not furnished with Registering Thermometers

							LEMPE	RATURE,				Prec	IPITA FIO	N.	more.			
STATION	Latitude N	I engrtude W	Elevation above sea level, in feet.	Mean	Difference from average	Yr's Observations	Піghest	Date	Lowert	Late	Mean daily range	Aniount	Difference from average.	Heaviest fall in month.	hee	No. of fair days.	No. of auroras	No. of thunderstorme.
BRITISH COLUMBIA						_									_	_		
S. L'uncourer Island Alberna (Beaver Creek) Chayoquot Cowichin (Tzoubalem) Departura Bir Galtie Bay Nanamio Nanowe Bay. Salt Spring Island Sooke Victoria	49 15 49 11 48 25 49 10 49 10 49 17 48 50 48 41 48 24	124 49 125 55 123 42 123 37 124 12 123 20 123 41 123 19	300 27 170 125 130 25 55	52 0 52 0 49 5 53 3 52 8 50 9 50 8 52 1 53 9	- 2 S + 2 3 	18 14 1 1 1 1 2 4 20	\$1 0 68 0 69 0 76 1 75 3 73 0 74 0 72 0	31 31 31 31 31 31 31 31	29 0 38 0 36 0 32 2 36 4 34 0 35 0 36 0	5 4-14 4 22 5 1 5-16 16	21 4 13 2 13 1 19 6 17 9 19 1 19 8 15 9	2 51 5 78 5 35 1 84 1 96 1 58 1 13 2 24 0 80	-0 61 -1 19 - - - - - -0.35	0 67 1 12 0 87 0 57 0 66 0 38 0 23 0 91 0 28	11 13 14 9 11 11 13 10	20 18 17 22 20 20 20 18 21		
A. Vancouver Island Holberg Swanson Pay Triangle Island Quatsino	50 39 59 37 50 52 50 32	128 18 126 53 129 5 127 40	6hU	45 5 47 3 49 5	_ _ 3 8	3 4 17	64 0 65 0	5-31 17 19	31 S 31 0 1	6 3 4-6	11 8 13 1 15 4	11 22 12 74 11 80	_5 99	2 94 2 85 5 97	22 24 17	9 7 14		::
Lower Fraser River Agassiz Chillwack Hope Ladner North Nicomen Pomberton Hitchery Pomberton Meadows Ruskin Kitave Falls Staveston(Garry Point) Vancouver	49 14 49 10 49 23 49 05 49 13 49 12 50 20 49 16 49 17	123 4 122 54 122 2 122 33	52 21 500 330 59 125	52 2 53 7 54 3 53 3 54 6 51 7 52 9 54 0 52 0 54 1	- 2 9 - 1 6  - 1 0 - 1 0 - 1 0  - 0 1 + 0 5	21 12 4 13 24 21 5 1 4 18 13	78 0 78 0 80,0 77 2 79 0 78 0 79 0 82 0 67 0 72 2	31 31 31 	33 0 34 0 31 5 35 0 38 0 39 0 29 0 30 0 34 0 38 0 36 7	5 5 6 6 5 6 4 18 5	24 3 19 3 22 3 17 4 21 6 23 0 27 0 19 6 13 7 16 1	6 08 3 19 2 80 3 30 5 03 3 57 1 19 1 58 5 13 3 46 4 33	+1 13 -1 13	0.67 0.88 0.60 0.147 0.69 0.28 0.44	12 14 13 7 14 14 9 11 16 11	-1.20		2
Upper Fraser River Bubme Lake Barkerville Chilcotin (Big Creek) Fort George Fort St. James (Stuarts Lake) Hydraulie	55 39 53 00 51 40	121 35 123 0		41 9 44 8 46 2	- 2 1 - 1 7	25 10 1	62 0 69 0 70 0	24-29 31 15 23-25	15 0 19 0 21 0	5 7 5	21 3 27 9 25 4	3 13 0 68 1 92	-0.4	0 50 1 0 44 0 30	20 3 11	28 29		2
Okenagan Valley Duck Lake Heilley Heilley Heilley Keremers Kerlownat Okanagan Missior Pentector Richlands Summerland Vernon Cooldstream Ranch	50 3 49 3 49 1 49 2 49 2 49 3 50 1	3 119 20 5 120 10 5 119 29 9 119 35 9 120 20 6 119 40	1400 1771 1200 1650	54 4 53 8 39 9 56 5 55 1 51 6 48 9 54 8 53 5	+00	16 1 6	74 0 84 0 84 0 81 0 81 0 81 0 81 0 81 0 81 0 81 0 81	30 31 30-31 23 30 31 23 30 31 30 22-31 30	22 0 22 0 28 0 28 0 27 0 27 5 0 27 5 0 27 5 0 23 0 23 0 27 0	4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	30 4 30 9 22 0	1 36 1 70 1 18 1 11 1 60 1 90 2 21 0 73 1 94 1 63 1 56	+0.8	0 50 0 54 0 48 0 59 0 73 8 0 75 0 91 3 0 40 0 48 0 60	9 10 7 6 8 14 5	24 22 21 24 23 23 17 28 20 20 23		1
West Kootenay Crawford Bay Creston. Fanquer (Needles). Grand Forks. Greenwood Howeer Kaslo. Nakusp. Nelson. Perry Siding. Rossland Wanets	49 49 5 49 2	2 118 2 5 118 4	1752	53 1 52 3 53 8 54 2 51 0 52 1 50 5 54 5 54 5 51 5	+ 0 5	3 1 4 3 2 1 4 2 11 1	86 0 81 0	31 31 31 31 30 31	27 0 26 0 24 0 28 0 23 0 21 0 29 0 24 5 30 0 36 0	3 3 4 1 1 4 4 4 4 14	22 7 28 8 25 9 29 7 20 1 20 3 22 7 23 2 24 7	0 80 1,49 2 2 2 2 5 0,99 0 8 1 6 2,19 2 3	1 -0.0	0 54	9 13 12 12 9 13 11 15	0   22 9   22 8   18 19 20 19 21 21 21 21 21 21 21 21 21 21		1
East Kootenay Cranbrook Tobacco Plains (Elko), Wilmer	49 3 49 50 3	1 115 .	0 5 2684	52 49	3 + 0 1 1	17	82 1 77 0	31 31	23 0 26 0	1 5		2 2 0.7	s +0.0	0.51	1 8	8 2	3	
Thompson River Attustrong Asheroft Enderby Harper's Ranch Kamitoops Nicola Lake Salmon Arm (Exp Farm) Tappen Tranquille	50 4	9 120 3	9 1245 9 2120 5 1152	59 54 54 57 51 54 63 57	$\begin{bmatrix} 4 & -1 \\ 2 & -1 \\ 1 & -0 \end{bmatrix}$	1	82.0 81.7 81.0 73.0 84.0 50.0	25 30 31	22 0 31 0 22 0 29 0 30 0 25 0 24 0 25 0		25.7 3 27 6 5 24 2 5 23 9 4 24 1 4 25 7 3 25 3 4 33 7	1.3 0.4 1.4 5.0 0.6 0.7 1.3 1.2	0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0	0.50 0.13 0.43 0.50 43 0.30 0.50 0.40 0.41	3 3 10 3 5 6 6	4 2 6 2 4 2 9 2	5 2 2 7 7 7 2	
North Columbia River Glacier Golden Invermere Revelstoke	51 1 51	4 117 2	9 4072 6 1476	40 44 55	4 - 4 9 - 1	4 14	1 62 f 2 76 f 1 80 f	26 1 22 1 25	18 0 21 0 15 0	1	4 15 3 4 25 8 4 29 0				0 -	7 2 2	8	-

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MAY, 1913.

\*Stations not furnished with Registering Thermometers

																_				
•				sea				Гимр:	1 RATUR	E			1'1.1	PITATI	ON-	more			10.5	
STATION		Fettinde N	I ongritude M	f.levation above 86 level, in feet.	Mean	Difference from average	Ye's Observations	Highest	Date	Lonest	Date	Mean daily range	Animunt	Difference from average.	Heaviest fall in month.	Days with 0 lorm	No of fair days	No of auroras.	No. of thunderstorms	No of fogs
BRITISH COLUMBIA-CON																	_	_		~
North Coast	0	,	o /																	
Bella Coola Khtada River Prince Rupert Stewart. Terrice	52 54 56	18	126-54 130-18 130-1	150 170 215	49 5 48 6 45 8 49 8	2 6 	15 5 3 1	68 5 62 0 66 0 67 0	19 9 17 17-18	25 0 36 0 27 0 28 0	4 5 5 5	19 1 11 1 21 6 18 0	4 07 6 75 2 55 1 81	+2 86	1 13 0 97 0 38 0 29	12 23 15 13	19 8 16 18		:	
Queen Charlotte Islands																				
Ikeda Bay . Massett	52 53	55	151 7 132 9	5 30	$\frac{45}{46} \frac{3}{6}$	$-\vec{2}$ 4	5 15	$\begin{array}{cc} 56.0 \\ 58.0 \end{array}$	10 23	35 ft 32 ft	4	$\frac{5}{11} \frac{2}{4}$	9 (e 3 In	-1 66	$\frac{2}{0} \frac{50}{75}$	15 17	16 14			
Yukon Boundary																				
Athn . YUKON—	59	3.5	133 .58	2240	41 3	_	7	56 5	21	19.0	5	18 6	0.25	-	0.17	3	25			
Carcross .	60	11	134 34 139 29	2171 1200	40-4		4	58-0	12 22	20.0	1	20 6	0.28	_	0 13	3	28			
MACKENZIE - Ft Resolution	61	0	113 0	800																
A Barta —  A Barta —  A Barta —  Campaie —  Coronal fold  Coronal fold  Edmontion  Eadinag  Gilt Edge —  Halfeck 'Emisburg'  Lloydminster —  Loveland'  Pakun (Victoria)  Kanfurly (Wartefield)  Sion  Springdalb —  Wastina	54 55 52 52 52 52 54 53 53 53	5 52 33 6 59 17 30 0 29 54 58	114 42 112 17 113 30 112 0 110 43 112 19 111 59 112 31 111 38 111 15 113 23	2158 2795 2000 	45 8 46 0 45 3 49 4 45 6 46 5 46 9 47 4 45 3 45 3 45 3	-1 ×	1 1 4 31 3 1 4 1 4 8 1 1 1 1	77 0 81 0 78 0 78 0 78 0 78 0 78 0 80 0 77 2 80 0 75 8 80 0 80 0	25 27 26 26 26 27 26 27 26 27 26 26 26 26 26	17 2 12 0 19 0 23 0 22 2 22 0 24 0 23 0 21 9 22 0 16 1 25 0 14 1	1 5 5 5 6 12 4 3 4 1 1	$\begin{array}{c} 27 & 9 \\ 23 & 5 \\ 26 & 3 \\ 25 & 1 \\ 21 & 5 \\ \\ 24 & 5 \\ 25 & 1 \\ \\ 25 & 6 \\ \\ 27 & 4 \\ 29 & 5 \\ \end{array}$	0 36 0 92 0 79 0 62 0 77 5 15 0 57 1 38 0 77 0 92 1 47 0 36	-0 97 -0 97 -0 25	0 07 0 25 0 29 0 21 0 29 3 09 0 27 0 28 10 20 0 15 0 50 0 14	12 9 5 6 3 4 14 11 10 5 7	19 22 23 26 25 25 27 17 20 21 26 24	2 4 2	1 2 6 5 3 2	
The Red Deer River Alix Clemes Dolin Dolsbarry Harmattan Hillsdows Lacombe (Ex. Farm) Perbeck Red Deer Threehills Creek	52 51 51 52 52 52 52	24 38 40 45 14 58 16 30	113 10 112 25 114 8 114 23 113 29 113 44 113 49 113 11	3500 2806 2783	47 6 46 6 47 4 43 1 46 7 46 8 46 8	+ 0 1	11 11 5 9 6 1	78 0 84 7 80 0 75 0 75 0 77 4 79 0	31 27 30 31 25-30 25-30 30	19 0 15 5 20 0 8 6 22 0 18 1 20 5	5 4 1-2 1 1 5 5	25 0 25 0 24 5 2 1 1 22 2 2 1 5	0 67 0 51 1 72 1 86 1 05 6 48 1 17		0 32 0 14 0 65 0 50 0 51 0 17 0 37	8 9 11 8 7 7	25 23 22 29 23 23 24		4 1 3	i
The Bow Ri_er																				
Brooks Calgary Cardstoo Gleichen High Ritwer Lawteneride Lawteneride Lawteneride Macleod Medicine Hat Okotoks Playle Creek (Mayeroft) Strathmore	50 51 49 50 50 49 49 49 50	35 16 42	114 5: 114 2 113 18 112 54 113 53 113 26 112 51 112 51 113 34 110 37	3389 2952 3394 2961 3128 2161	44 6 48 9 46 8 53 2 48 4 48 8 55 1 47 5 50 6	+ 0 1 - 0 9 - - 2 2 - 0 8	29 15 10 6 5 17 29 1	\$1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	31 26-20 30 31 29 31 27 30 27 30 20	17 0 19 0 18 0 20 0 26 0 19 2 21 0 23 0 15 0 21 2 23 0	1 1-2 1-2 1 1 1	24 5 25 6 23 7 24 9 31 1 24 1 23 4 27 9 21 5	2 27 1 15 1 51 0 55 1 70 0 32 1 06 1 62 0 78 1 14	-0 21 - - - - -1 47 -0 79	0 51 1 00 9 85 0 15 0 23 0 15 0 70 0 73 0 17	10 3 8 5 10 8 9 7	21 28 23 26 21 23 22 24 23 25		2	
Sundial	- 201	0	112 04		əD 6	_	3	83.0	,41)	20 17		24 0	1 4	_	47	0	2.7			
Banff Brazeau Forest	51 49	10 40	115 34 114 30	4542 4225	45.5 39.9	<u>-1</u> 4	18 1	70 3 70 0	30 26	16 6 12 7	5	21 8 27 2	1 '4 1 bir	- 1 35	0 28 0 59	13	18 24			
Athabasca River																				
Athabasea Landing Lunniord Pembina	54 54 51	43 33 12	113 17 114 19 114 0	1650	45 6 45 4		10	75 U 77 U	25 28 25	17 0 19 0	12 5	29.4	0.79	=	0 27	5 1	26 30			
Peace River Beaver Lodge Dunvegan Fort Vermilion Fort Vermilion (2) Grand Prairie	55 55 58	29 56 27	119 24 118 35 116 3	1305	43 S	-	1	71 0 71 0	2n 25	17 5 18 0	5	22 3 24 1	0.23	-	0 11	6	25 		3	
Peace River Crossing Spirit River	56 88	15 40	117 15 118 47	2400	48 2	-	6	76 11	19	21 0	4-5	25.1	1 + 0		9.70	. 3	28	2		

\*Stations not furnished with Registering Thermometers

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			e				Темре	RATU HE				l'RE	CIPITATIO	N,	more			9 .	
STATION	Latitude N.	Longitude W.	Elevation above sea level, in fect.	Меап.	Difference from average.	Yr's observations	Bighest.	Date.	Lowest	Pate.	Mean daily range	Amount	Difference from average.	Deaviest fall in month	swith 01 or	5	No. of Auroras	No of fors	
SASKATCHEWAN-						_										_			
$Qu'Appelle\ River$	0 /	0 /									112 1			1.50	,				
Broadview . Brownfulf (Grentell P (+ ) Brownlee Buchanan .	50 23 50 23 50 45	102 33 102 53 106 0	1960 1957	46.9	<del>-2</del> 5	14	91 0 84 0	28	25 0 21 0	13	23 1 53 9	2 07 2 24	+0 30	1 50 0 63	6	25		i	
Crescent Lake . Estevan Fort Qu'Appelle	50 59 49 12	102 25 103 4	1658 1858	47 3 48 2	_	5 2	87 0 92 8	27 27	22 0 21 0	3 8	23 3 26 5	i 28 1 55	_	0 85 0 53	4 5	27 23		1	
Hubbard Drumague Humbo'dt Imperial Indan Head	$\begin{array}{ccc} 51 & 5 \\ 52 & 12 \\ 51 & 22 \\ 50 & 28 \end{array}$	103 24 105 0 105 23 103 40	1921	48 0 48 3 47 9	_ 2 5	20 20	84 0 90 0	27-30 27 27 27	21 H 23 O	12 7 12	26 1 23 3 22 6	0 97 1 90	_ _0 08	0 56 0 70 0 28		28 24 24		: ::	
Kamsack. Manor.	49 43 50 21	102 2 105 35	2084 1759	50.8	+ 0.7	2 17			22 0 19 0	6		0 52	-1.28	0 28	6	25			
Moose Jaw Moosomin Muenster (St. Peter's Mon : Pilger Pense (Catescrith )	50 0 52 0 52 25 50 20	101 37 105 0 105 9 105 0	1884 1870 1879 2115	46 4 46 9 46 6 48 7	- 3 5	12 2 15 29	91 0 57 0 89 0 89 0	27 27 30 30 27 27	19 0 21 0 25 0 19 0	8 13 8 12	28 0 23 1 21 6 23 0 26 4	0 15 2 14 0.52 1 09 2 26	-1 28 -1 71 - -1,28	0 10 1 06 0 19 0 44 0 55	10	29 27 21 26		1	
Pense (Gatesgarth ) Qu'Appelle Quill Lake :	50 30 52 4 50 27	103 47	2115 1600 1885	48 2	2.5	30	87 c 90 0	27 27	21 0 17 0	1	93 2 26 6	2 26 0 95	-0 01 -i 65	0 55		22 21		5	
Regina Strassburg Yarbo (Fairhebb Yellow Grass Yorkton	50 27 51 5 50 39 40 40 51 11	104 37 104 57 102 4 104 9 102 29	1353	16 4 44 3 48 1	-	6 2 4	85 0 91 0 89 0	28 27 27	26 0 19 0 24 0	13 5 9	22 7 23 7 23 2	1 22 0 59		0 30 0 27	_	21 21 25	:: :: :: ,		
S. Saskatchewan River Chaplin East End (Divide) .	50 26 49 31	106-39 108-49	2202	45 4 45 8	- 3 7	-75	94 () 84 ()	27 27	21.0 12.4	3-5 1	27 0 25 6	0 48 0 65	- <u>1</u> 66	0 22 0 35	6 2	25 29		2 .	2
Kelvinhurst (Nashlyn) Kinderslev Larehmount (Glenbrynn)	51 46	108 10		46 2 47 8	-	1 2	82 0 90 0	29 27	16 0 17 0	5 1	27 2 28 8	0 72 0 77	= .	0 33 0 36	10	$\frac{21}{26}$	1 1	3 .	
Oliver Rathmullen Swift Current	49 21 49 54 51 20 50 20	107 27 108 57 107 45	2439	45 U 50 4	_ _ a s	3 26	82 0 86 0	29 27	14 8 26 6	1 6	25 4 22 9 1	0 63 1 41	_0 71	0.29	9	22 27	::	2	
N. Saskatchewan River																0.07			
Battleford Lloydminster Luseland Onion Luke.	52 41 53 18 52 5 53 52 51 0	108 20 110 0 109 34 109 59 108 20	1620 1700	45.5	1 5	3	89 0 79 0	26 30	25 0 17 0	1-17	26 <b>1</b> 30 9	0.46	-1 23 -	0 20 0 60	4	27 27			
Prince (Meota) Scott (Ex Farin) St Walburg Waseca	51 59 53 <b>6</b>	169 30 109 29		45 b 46 0	_	3 6	84 9 78 0	26 26	18 2 18 0	6 1	26 0	0.95		0 50	8	23 27			
The Saskatchewan Forks																			
Clingoness (Star City) Duck Lake Melfort Prince Albert Rosthern Suskatoon	52 32 52 54 52 47 53 10 52 40 52 15	104 13 106 20 104 30 106 0 106 20 106 30	1432 1657 1571	47 0 49 2 46 3 48 0	+ 0 1 - 1 5	27 3 17	82 5 80 0 78 7 80 7	30-31 26-30 27 27	19 5 20 0 22 1 20 4	13 13 13 13	26 6 24 7 21 3 23 1	1 43 0 79 1 26 0 35	-0 75 -1 24	0.50	10 11 10 3	21 20 21 28	1	2 .	
Lower Saskutchewan River																			
Cumberland House Lost River	53 56 53 17	$\begin{array}{ccc} 102 & 16 \\ 104 & 21 \end{array}$														•		:: :	
Manitoba-																			
Qu' Appelle and Assini- baine Rivers Awene (St Albane) Borssevan Brandon Carberry Carnon Cyrress River Hillenew Minnedoss Ninate Nina Depsoon Presson Pr	19 42 50 25 19 51 49 31 49 33 49 55 50 15 49 24 49 11 49 34 50 15 49 24 49 14 50 50 50 59	99 57 99 20 98 0 99 3 100 33 99 50 99 51 101 5 100 58 98 17 101 20	1180 1703 1176 1258 872 1232 1400 1699 1363 1649 1531 1400	50 7 7 48 8 1 × 48 1 × 49 6 48 1 × 49 0 7 48 6 0 0 49 0 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	26 S4 29 24 9 26 20 1	96 0 90 0 88 0 91 0 88 0 93 0 93 0 90 5 90 0 92 5 92 0 90 0	28 27 7 27 29 28 X X 8 7 8 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20 6 0 18 0 20 6 0 22 0 21 0 21 0 25 0 24 0 20 0 21 0 21 0 22 0 21 0 22 0 21 0 22 0 21 0 21	2-13 8 9 13 8 8 6 6 8 8 18 18	25.4 23.0 26.3 20.4 26.1 22.6	1 09 0 99 1 04 1 10 1 33 1 15 1 04 1 20 0 67 0 55 0 65	-1.70	0.18 0.44 0.35 0.43 0.43 0.40 0.09	11 10 8  8 11 9 6 5  5 3 7 7 6 4	20 21 23 20 22 25 26 28 24 24 25 27	3	2	i
The Red River Almasiph Mordon Ogk Bank. Stony Mountain Winnipeg	49 14 49 11 49 57 50 40 49 53	97 14	978 800 803 760	50 4 49 2 48 8 48 4 49 9	+ 0 0 - 0 9 - 3 3 - 1 2	18	93 0 90 0 85 5 90 0 88 8	27	17 0 21 0 22 0 19 0 22 1	8 9 6 5	28 3 23 4 22 2 28 8 23 5	0 53 0 54 0 52 0 25 0 53	-1 33 -1 16 -1 48	0 19 0 18 0 19 0 25 0 17	7 6 1 8	24 24 25 30 23		2	

• Stations not furnished with Registering Thermometers

								IEMPER	AIURE				Fire	CIPITAT	10N	10		-	_	_
STATION.	Latitude N		Longitude W	Devation above sea bytel, in feet	Mean	Difference from average	Ar's observations	Dighest	Date	Lowest.	l'ate	Mean dady range	Amount	Difference from average	Beavier (all m menth	Days with .01 or more	No of fair days	No of auroras	No. of thunderstorms	No of fogs
Manitoba- Continued																_	_	_	_	_
Dauphin Lake and Rices Berens River Dauphin Moose Horn Bay) Arthers ville)	51	18	97 23 1 2 2 33 33	716 957	47 3 46 9	_	7	** 1	25	22 - 2 - 4	15	11.	1 38 1 an	_	0.15	4	27 20	1		
Lake Winnipegosis Le Pas	52	ŧ,	. 1 15	1112	46.1		D	79.0	, 11	22 0	1.2	21.5	1.51	_	0.73	13	15		1	1
Ontario-																				٠
The Lake Superior Districts Rainy River Fort Francis. Kenora	49	4 4	. 32	1102	44 3	- 4 4	14	N4 -	27	23 ((		23.3	1 12	i 78	1 01	14	27		3	
Thunder Bay Kakabeka Falls Port Arthur Schreiber	48 45 45	2 -	\$2.26 \$2.12 \$7.15	912 644 533	44 6 45 5	_ i 3	3 32 15	57 o 2	31 1	19 0 24 0 21 1	9 14 7	25 6 20 2 25 6	4 12 3 43 5 50	+ 1 26	1 14 0 70 0 74	15 15 12	16 13 19	1 1 2	1	3 5
Algoma Bruce Mines		15	> 55 > 1 59	595	45 9	- 24	15	50.0	1-2	26 0	7	12.9	1 90	-0.60	0.35	11	20		1	
Copper Cliff. Porcupine Providence Bay Timining (Sandy Falls) White River	45 45 45	35	\$5 16 85 16	1252	44 6 46 b	-	1.7	75 : 61 5	2-4	21 0 23 0	10-25 20	21 7 17 9	1 93 1 56	=	1 02 0 80	4	22			
Nipissing Cochrane Hmleybury Iroquois Falls Montreal River	49 47 47	2 23 8	\$1 -0 77 <b>39</b> 77 <b>29</b>	946 687	45 h 49 7 44 I 49 3	-0 5	15 1 1 3	52 U 57 5 85 4 85	1 1 2 1	20 0 23 0 2 1 2 20 0	1 10	24 4 21 3 25 3 15 0	1 75 1 22 2 64 1 59	- <u>1</u> 88	0 64 0 20 0 68 0 42	16 10 14	21 21 17 23	ì		
Upper Ottawa River Rutherglen (Lake Talon) Stonechiff (Ruckhiffe)	40	15	74 48 75 6	557	§) (. 50 3	= i :	15	52 5 87 0	4	24 0 23 0	10 15	28 ± 25 ±	3 32 2 04	+0 27 -0 71	0.76	10 11	21		1	1 2
Upper St. Lawrence and Lower Ottawa Rivers Almonte	45	12	Dr. 13	310	52.9	_	2	90-0	4-5	22.5	15	24-1			1.13	7	.'4			
Bloomfield Hilber Kingston		59 13	76 13 77 21	260 285	52 9 52 2  52 1	- 17 - 05	15	× 1 ()	4-5 5	22 5 29 0 26 1	10-11	24 1 2 1 2 17 2	4 10	-0.23 +1.65	1 33	- 6	25 20		1	
Montague North Gower Ottawa Renfrew	44 45 45	56 % 26 26	76 29 75 57 75 43 75 42 76 39	294 416	53 1 54 3 53 2 52 6	-30	4 5 25	73 5 85 0 87 0 86 0 85 9	4 5 2-4	25 F 26 F 36 F 25 F	25 15 10 8	22 4 25 6 21 0 21 0	4 16 5 70 2 50 2 87 1 50	+0 s5 -0 72	2 00	86.81	23 25 23 24		1	
Georgian Bay Counties Barrie Bentrice Big Chute (Midland P.O)	14 45	23	79 41 79 20	539 800	49.7	~ 20	15	×0 ti	3-4	24 h 27 h	10	- 1	1 19	-2 21	0.23	6	25 25			
Coldwater Collingwood	41 44	38 31	79 40 80 2	600	51.5		1	55.5	,		,				0.25	6		:		
Gravenhurst Huntsville Midland	44 45	54 19 44	79 20 79 53	750	49 3 49 3 —	- 3 7 -	36 7 6	20	4	26 0 24 0	25 10	23 5 23 5	1 95	-1 S2	0.25	- 7 - 5 - 7	24 26 24		1	
Markdale	4.4	37	79 24 80 55	775 597 635	51.2	-	2	8111	4	23 0	10	24.2		_	0.29		24			
Parry Sound Ronville Uplands	15 45	15	80 0 18 57 79 25	635 1035	49 5 49 5	- 2 1	6	52 U	1-4 3	24 0 23 0	10	21 S 22 T	1 57 0 94	-14,	0.25	11	24		- 2	i
Lake Huron Counties Birnam	13	2	ST 55	600	55-1	_ 1 9	16	SI 0	,	21.4		20.4	3 22	+0.37	(1.50	,	23		6	i
Clinton Goderich	43	32 45	81 41		55 1 51 7 51 3 48 5 49 3	- 1 6 - 2 3 - 6 0	10 23 27	SI 0	4	23 1	11	11.0	3 22	+0 37 -2 35	0.35	7.9.9	-14		3 1 3	1 2
North Bruce *Point Clark	43 44 44	56 23 -5	51 25 51 44	908 595 5×6	49 3 	= 5 6	25 42	\$0.0 \$1.0	3 3	19 4 25	26	-+ 1	4 49	-2 17 + 1 82	0 74 2 42 —	6	22 25		4	1
Southampton .	42	54 31)	\$2 24 \$1 21	5×6 656	49-2	<b>—</b> 2 3	36	×2 0	3	25.2			12	-1 72	0.26	10	21		2	. 1
Lakes St. Clair & Erie, Niagara Peninsula Chatham	42	2.1	52 12	5::5	56 4 53 5	- 0.4	26 25	×4 · · ·	. 1	22.0		41	16			7	24			
Cottam Dutton Grimsby	42	7 13	82 45 20 36	606	56 4 53 5 54 4 55 7	- 3 "	25 1 4	\$2.0	1-4	41			1 96		1.06	6	25			1
Peleo Island Port Burwell.	41 42 42	5 i 34	-2 35 50 55	5×5 592	55 0 52 2 52 0	= 1 1 2 = 1 9	11	\$1 5 71 2	stl 5	28 II 27 B 27 B		11 A 11 B	19 29 2 14	-6.63 -0.65	0.72	5 7 9	25 26 24 22 19	1	1 3	
Port Dover	42	27 40 9	81 13 79 17	635 592 347	52 4	11 6	37		5				1 61	-1 P		1.2			4	12
Stoney Creek Wallaceburg Welland Windsor	43 42 42 42	13 35 54 20	52 35 80 55 89 18 81 12 79 17 79 45 82 24 79 17 83 4	292 577 625	54 6 57 1 54 8	- 0 2	27	51 n	1-4 3 5	11.6			3 90		1.02	4	22		1	

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MAY, 1913.

\* Stations not furnished with Registering Thermometers.

									ТЕМ	PEKATU	kE.			PRE	CIPITAT	ION	more.			9	
STATION		Latitude N.		Longitude W.	Elevation above sea level in feet	Mean.	Difference from average.	Yr's Observations	Highest	Date.	Lowest.	Date	Mean daily range.	Amount	Difference from Average.	Heavest fall in month.	Days with 01 or me	No. of fair days.	No. of auroras.	No. of thunderstorms.	No. of fogs.
ONTARIO—Continued—																1		-	_	-	-
West-Central Counties		. ,		,						1											
Alton		3 51 3 10 3 41 3 33 2 59 3 12 3 23	50 50 50 81	21 24 16 13 25	1250 750 1274 1050 808 840 1191 980	54 8 51 2 52 8 52 0 54 5 55 6	- 0 8 - 0 8 - 0 3 - 1 4 - 3 5 + 2 6	28 24	S5 0 83 0 81 0 83 0 85 0 86 0	2-3	28 0 24 0 27 0 24 0 27 0 29 0	9 10 10 9 10–11	20 6 22 9 24 6 24 1	1.98 1 05 1 24 0 46 1 13 0 90	-2.16 -0 51 -2 26	: 0.18	7 9 8 3 7 6	24 22 23 28 24 25 		3 3	1
Lake Ontario Counties																					
Agincourt Autora Hamilton Oshawa Toronto Toronto Is (Lakeside Home) Uxbridge	4: 4: 4: 4: 4: 4: 4: 4:	3 57 3 16 3 53 3 40 3 40 4 5	79 79 79 78 79 79 79	24 54 52 24 24 8	590 886 303 331 350 886 555	53 1 51 7 56 0 54 3 51 6 51 9 50 5	- ( 9 + 0 7 + 0 7 	19 5 38 72 9 9	\$4 9 83 3 85 0 86 6 75 0 83 0 81 0	2 3 3 3 2 2-3 2	27 3 25 0 31 0 30 2 31 0 24 0 26 0	10 7 10 10 10 11 11	22 0 21 8 18 6 19 9 19 5 21 0 17 2	1 40 1 56 2 77 1 04 1 03 1.17	-2 16 -0 01 -1 81 -	0 72 0 94 0 96  0 56 0 45 0 77	8 4 5 7 6	23 27 26 23 24 25		1	1
East-Central Counties																	i				
Bancroft Haliburton Kimmount Lakefield Lindsay Madoc Norwood Peterboro Uraa	4: 4: 4: 4: 4: 4: 4: 4: 4:	5 1 4 45 4 25 4 20 4 30	77 18 18 78 78 77 78	38 15 45 29	1050 920 850 872 575 722	50 7 51 9 50 2 52 8 53 8 53 3 53 2	- 0 6 - 0 8 - 2.8 - 1 0 - 2 1	22 24 14 33 8 1 44	85 0 86 0 83 0 86 1 86 0 86 5 85 0	3 4 4 3-5 5 3	20 0 18 0 21 0 25 5 27 0 26 0 27 0	10 11 10 11 11 11	26 3 28 9 25 8 24 2 23 0 21 8 23 9	1 14 0 69 0 80 2 07 1 72 0 83	-1 83	0 54 0 24 0 29 1 12 0 57 0 29	6 5 9 4	27 26 25 26 22 27		2 1 4	
Quesec-																					
Middle St. Lawrence													- 1								
Bromo Cap Ronge Cedar Rapids D'Israel: Montreal Quebec Ste, Anne de Bellevue Shawingan Falls Shetbrooke	41 41 41 41 41 41	5 46 5 55 5 30 6 48 5 27 6 34	72 71 73 71 73 71 73 72 72		678 132 896 187 296 620	49 7 48 9 52 1 53 9 50 8 46 9	- 3 2 - 1 1 - 0 7	32 3 1 38 38 38	83 0 85 0 85 0 84 7 84 2 85 0	4-6 7 3-7 4 6	22 0 25 2 21 0 31 8 28 5	15 15 20 10 15	20 3 18 4 20 6 18 0 19 8	3 57 3 27 2 14 3 84 2 69 2 22	+0 29 -1 05 -0 46 0.72	1 05 1 05 0 95 1 11 0 80 1 12	10 10 11 11 11 11	21 21 20 20 20 20 22		3 3  2 4	i
Lower St. Lawrence & Gulf																1					
*Anticosti, E. Pt Anticosti, S.W. Pt *Anticosti, W. Pt *Bicquet *Cape Chatte *Cape Magdalen Futher Point Ste Anne de la Pocutiere	41 45 41 45 45 46 46	52 3 25 6 16 3 31	61 64 68 66 65 68 70	32 53 45 20 19 2	30 30 93 20 65	40 3 40 6 45 0 41 0 41 8 42 4 47 4	$\begin{array}{c} -4.1 \\ -1.0 \\ +2.7 \\ -3.6 \\ -2.1 \\ -0.9 \end{array}$	30 31 31 30 31 31 35 3	54 0 78 0 57 0 70 0 50 0 64 0 68 1 87 8	17 14 18 4 21-22 28 4 6	32 0 28 0 30 0 30 0 32 0 29 0 24 0 22 0	9-15 1 15 15 15 15 17	25 0 - - - 13 2 19 1	1 35 1 99 2 32 1 90 0 98 3 62 2 85 2 69	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 78 0 76 0 90 0 80 0 36 0 60 0 72 0 84	2 7 10 5 4 12 10	29 24 21 26 27 19 21 22			6 2 3 5 5 1
Lake St. John													- 1								
Chicoutimi Chicoutimi (2) Lake Edward La Tuque Mistassini *Roberval	47 47 47 49	39 27 54	71 72 72 72 72 72	5 15 48 15 13	1333 520 360 352	47 4 48 1 46 1	= = = = = = = = = = = = = = = = = = = =	35 3 3  2	86 8 87 0 82 2 84 0	5 5 2~5 6	26 1 25 0 3 0	15-16 14 15	20 0 27 4 23 4	1 32 1 87	-1 52 - - -	0.50 0 60 0 49	12 10	19 19 21		1 1 1	2  3
The Northwestern Districts				i																	
Abitibi Manouan Crossing Weymontachingue (Dam A) White Shore Lake	48 47	54	79 73 75	22 50 43	:	45 6 43 6	_ 1.0 	17	75 0 83 0	31	25 0 13 5	9-25 	19 3 26 0	1 53		0.60	8	23  24	::	  2	
The North Shore	1			1																	
Clarke City	50	10	66	25									.					••			٠.
New Brinswick— Chatham Dalhousie Fredericton Moneton Point Lepreaux St. John St. Stephen Sussex Williamsburg	47 48 15 46 45 45 45	9 4 17 11	65 66 64 66 66 67 65	29 22 36 45 28 4 16 38	21 39 164 50 30 70 35 96	47 5 45 4 47 5 46 3 44 3 45 8 47 7 46 3 44 9	$\begin{array}{c} -26 \\ -02 \\ -31 \\ -32 \\ -07 \\ -27 \\ -27 \\ -28 \\ -3.2 \\ \end{array}$	35 40 16 16	88 0 73 0 83 3 79 0 55 0 65 5 78 0 70 0 83 0	6 5 6 3-31 3 6 6 7	28 5 29 0 27 0 26 0 32 0 31 3 22 0 22 0 25 0	2-13 16 17 15 2 2 2 16 15 17	19 3 15 8 21 1 19 8 12 2 23 0 19 8 21 8	2 72 4 00 4 04 3 00 4 87 3 64 2 74 4 54 3 44	-0 10 +0 87 +0 62 +0.79 -0 27 +0 47 +1 91	0.62 2 50 1 20 1 15 1 77 0.75 1 25 1 85 1 75	6	19 27 18 22 25 18 23 24 24		1	1 9 1 -4

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, MAY, 1917

\*Stations not furnished with Registering Thermometers

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					n sea			-	TEMP	EBATUI	ct.			Pice	HPITAT	10.9	more			575	
STATION		Latitude		Longitude	Elevation above se level, in feet	Mean	Difference from average.	Yr's Observations	Ilighest	Date	Lowest	Date	Mean daily range	Anosa	Difference from average	Heavest fall in nonth	Days with Ulor me	No of fair days	No. of Aurorus	No of thurderstorms	No of fags
Nova Scotia-		o /	۰																		
Advocate. Antigonish Halifax Kentville. Kentville (2) Liverpool	45 44 45	39	63	59 36	50 88 40	45 4 47 0 44 9 46 0 44 5	- 2 3 - 2 3	38 2 1 1	75 0 65 8 67 0 70 0 67 0	7 19 19 6 6 6-7	21 0 28 9 23 0 27 6 16 0	14 9 16 16	24 5 17 9 19 7 16 9 25 9	5 20 2 77 3 17	+1 53 - -	1 03 1 03 0 84	18 10 18	13 21 13		2	1
Merigonish New Germany						48-1		2	77 0	6	23 0	16	23 1	5 05	_	2.60	4	27			
Parrsboro' Port Hastings	45 45	34		19 22	40 45	43 4	- 43	22	7U 0	18	20 0	2-4	23 6	3.22	-0 27	1 98	y	2.3		1	
Sable Island, E. Pt Sable Island (Main Station) Sydney Truro Whitehead Windsor Wolfville Yarmouth P. E. Island	43 46 45 45 44 45 43	57 10 22 15 59 7	63 61 64 64	46 6 10 18 8 6 20 2	25 25 35 77 20 90	43 1 44 5 46 6 40 9 46 8 46 1 46 1	- 1 2 - 1 6 - 2 6 - 1 0 - 3 4 - 4 8 - 2 2	30 40 38 29 11 14 32	58 0 69 5 71 3 56 0 72 0 67 8 63 7	29 7 29 10 6 7 6 31	33 0 27 0 23 0 35 0 28 0 29 2 30 1	2-5 16 16 16 16-18 17 18	9 8 16 2 20 6 17 6 16 2 13 3	4 01 1 16 3 26 3 07 2 98 3 00 7 22	$\begin{array}{c} +0.32 \\ -1.07 \\ +0.23 \\ +0.19 \\ \hline -1.025 \\ +0.356 \\ \end{array}$	0 71 0 56 0 92 0 68 0 82 0 78 2 32	13 13 15 6 11 11 13	18 18 16 25 20 20 18		1	13 9 12
Charlottetown Charlottetown (Exp. Farm) Hamilton	46 46 46	$\frac{14}{14}$ $\frac{25}{25}$	63 63 63	10 7 48	35 75	45 4 45 1 44 9	$\frac{-29}{-21}$	37 3 15	68 N 68 S 63 Q	29 6 6-19	30 0 28 5 27 0	9-13 9 13	$\begin{array}{ccc} 14 & 6 \\ 16 & 0 \\ 16 & 2 \end{array}$	1 87 2 03 1 87	-0.59 -	0 42 0 37 0 52		13 11 22		1	
Newfoundland— 'Amour Point Burin . 'Cape Norman Fogo. Point Riche Port aux Basques St. George's St. John's	51 47 51 49 50 47	42 35	56 55 54 57 59	10 52 17 25 10	27 30 35 27 125	32 6 39 7 39 8 43 6 43 1	- - + 0 4	29 4 23 40	40 0 55 0 57 5 72 8 73 0	30 8 18 29 7	24 0 31 5 29 2 28 0	9 10 9-14 9-14 10 5	10 3 16 3 16 5	0 18 0 19 3 58 0 94 4 67	-2 39 - - + 1 48	0 15 0 10 1 18 0 37 1 11	3 16 12 11	29 28 15 19 17			1 2 6 6 5
IABRADOR— *North West River Burmuda— Prospect	32	17	64	46	151	35 1 66 4	_ _ 2 1	- 22	52 0 77 2	23 25-26	19 0 49 4	10-12 12	12 3	1 32	-3 07	0.72	10	21		1	

PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING MAY, 1913.

STATIONS.	Amount	No of	AINFAI	Heaviest		Amount	SNOW	Heaviest		REMARKS
61A11036.	inches.	Days 01 or over.	Fair Days.	Fall in Month	Date	in inches	No. of Days	Fall in Month	Date	
RITISH COLUMBIA—										
Alkalı Lake Annis (Canon Point)	0 84 1 55	6	25 17	0 24 0 43	9 10					
Beaver Lake .	1 55 0 74 4 73	3 9	25 17 28 22	0 40 1 20	10 14					
Camboo Road No 141 Denman's Island	0.90	7 12	24	0 22 0 38	10			3 0	2	
Coldstream Lake	1 90	11	18 20	0 43	11 10	3.0	1			
Hydraulic Hornby Island Invermere	1 22 0 67	7	24 25 17	0 32 0 25 0 52	14 27					
Jordan River	3 06 3 57 1 76	14 10	17 21 21	0 52 0 61 0 45	14 15				:0	
Luttle Qualicum Lumby Monte Creek Nans Harbout Rock Creek	1 63	10 12	19	0 44	15 10					
Nass Harbour Rock Creek	2 16 1 64	16	15 22	0.28	12 8					
Shawnigan Lake Wychffe										
LBERTA-										
Bardo	0 63	4	26	0 21	6	i 5	1	1.5	4 9	
Bismark Brueuerheim Bittern Lake	0 10	4	26	0.03	30	0.2	i	0.2	2 1	
Brooks Beaver Mines	1 31	14 5 8	16 26 23	0.75	13	1 3	i	0 2 1 3	6	
Coleman Cowley Caldwell Claresholm	1 58 1 49 0 05	13	17	0 51 0 36 0 04	18 13 9	3 0	1 3	3 U 5 U 4 U	3	
Claresholm Claresholm	0 94	2 5 4	25 25 25	0.40	9	4.0	1	4 0 3 0	3 3	
Clarinda . Dorenlee (Bissliaw) Dunstable (Five Lakes)	1 40 9 69	10	26 27 21	1 00 0 37 0 30	15 30 30			0 0	· .	
Dunstable (Five Lakes) Grassy Lake Jumping Pound	0 42 3 11	3 7	25	0 30 1 06	12 12	2.0	1	2 0	4	
Loch Sloy Lyndon Lindon	1 36 2 10	9 2	22 25 27	0 60 1 50	13	4.0	1	4.0	9	
Lincham . La Pearl Lethbrulge .	0 79 1 33	12 6	27 18 24	1 50 0 57 0 85	14 24 12	1.9	1	1.9	3	
Macleod Mayeroft	1 90	11	24 18	0 46 0 47	13	3 3	1 3	4 0 2.1 4 0	3 .	
Mountain View Minnville (Royeroft Ranch) Nuteby	0 95 0 34	3 3	18 25 28	1 14 0 39 0 25	16 14 13		. 1	0.8	3	
Nateby Nanton Okotoks	1.80	9	26 22	0 25 0 87	12					
Pekisko . Ponoka	1 38 0 70	8 2	21 23	0 45 0 50	28 13	5.3 6.5	6	2 8 2 0	7 8	
Sion Seven Persons . Tilley	1.08	3	28	0.75	13				.	
Writing-on-Stone (Coutts) Waterton Mills	2 31	4	26	0.91	9.	7.5	1	7.5	3	
ASKATCHEWAN-										
Aberfeldy	. 14	3	25	1			8 ,.			
Gull Lake Gull Lake (Fks. Swift Cur.) Last Vountain	0.57 0.43	3	28	0 33	15 14		- :	•••		
Last Mountain Maple Creek Mendow Lake				1						
Mendow Lake Nashlyn (Kelvinhurst) Willow Creek (Battle Cr.)										
Wapasnoe										
Control -										
Cartwright Deloraine Norquay (Swan Luke) Rapid City	1 19 0 61	6	19 24	0 34	15 12			***	17	
Rapid City Rose Bank	1 31	8	22	0 44	25	0.2	1	0 2	3	
Ontario -								.,		
Brantford(Bow Park Farm) Deer Park	2.12 0.91	10	21 24	0 96 0 46	21 15					
Deer Park Dutton Emadale	0 91 1 37 2 02	6	24 25 20 24	0 46 0 52 0 41 0 98	15 16 22					
Fort Frances Georgetown Grantham	2 02 4 03 1.33 1 73	7	24 21 23	0.55	29 16					
Grand Valley Hillier	1 73 0 65 2 60 3 45	8 4 3	27 28	0 47 0 47 1 80	16 22 16 27					
MucCue. Princeton Renfrew	3 45	3 5	26	1 80 2 45	27 28				1	
Renfrew Sydenham Strathroy		4			27					
Watford Westport	4 10 2 39 2 98 4 14	6 8	27 25 23 25 25 28	3 05 0 73 0 80 1 25	16 16 28				9	
Westminster Wooler	4 14 0 99	5 3	28	0 69	16		1	* .	9	
Wesley. Wattenwyl	1	1		-						
Wiarton	0.74	4	27	0 29	$^{2}2$	<u> </u>			- 1	

PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, W. 11 TRING MAY, 1913.

STATIONS  UEBEC- Bark Lake (Riviere Desert)	Amount in inches	No. of Days 01 or over		Heaviest Full in Month	Date	Amount	No of	Heave t		REMARK >
						inches		m Month	Date	
Bark Lake (Riviere Desert)										
	1.86	7	24	0.70	22					
Kipawa Dam . Lucerno .	1.78	. 5	26	0.75	27					
Perkins Mills	2 14	6	2.5	1 10	25					
Quinze Dam Timiskanning	1 42	5	26	0 43	6					
ew Brunswick-										
Point Escuminae	2.49	6	25	0.91	30					
TOVA SCOTIA-										
Big Mushamush Lake (Ma-										
hone)	4.75	11	19	1.80	30	1.0	1	1.0	1	
Milton	5 71	5	26	2 66	30					
Mushamush River (Mahone)	2 35	10	21	1 05	. 29					
Nappan South Alton	- 93			1 110	2.5					
White Rock	3 15	7	23	1.00	24-30		1	,	1	

### PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE

### MONTH OF MAY, 1913.

a Barometer not reduced to sea level

	:							Pв	Ess	('RI	- a		humidity.	cloud.	etely			Di	RE(T)	0N 0	r Wi	ND FI	eosi eosi			v	ELOCITY WIND	07
STATION		Latitude N	_ 4	Longitude W.	Elevation above sea level, in feet		Mean reduced.		Highest.	Loutest		Range.	Mean relative hun	Mean amount of ele	No of days completely clouded	Z.	N E	3		<u>«</u>	8 W	W	N.W.	C.	Total number of observations	Mean miles per hour	Maximum velocity.	Date and direc- tion from.
Atha Atha Barkerville Kamhoops a Namanne Prince Rupert Trangle Island Uncourse Victoria		53 50 49 54 50	35 1 2 1 42 1 10 1 18 1 52 1 41 1 17 1	33 38 21 35 20 20 23 37 30 18 29 5 20 20 23 5 23 19	4180 1245 125 170 6 680	21 21	9 93 9 92 9 96 9 07	30	34 42 36	24 24 29 29	68 63 0 44 0 78 0	1 66	53 73 76 74	6 7 7 8	10 20 11 11	1 0 5 0	1 0 1 3 2 3	2 0 16 10 26	4 0 1 7 6 3	37 31 14 7	3 17 3 0	5 21 13 0	5 0 2 0	4 40 7 35 4 4	62 62 62 62 62	8 1 5.8	24	3W 198W
YUKON— Dawson		54	4 1	39-20	1200																	• (						
ALBERTA— Banff Calgary Edmonton Medicine Hat		11	2 I 33 I	15 31 14 1 13 30 10 37	2158 2158	2 2 2	9 90 9 90 9 90 9 91	30 30 30 30	43 33 37 31	29 29 29 29	66 6 61 6 57 6 54	) 77 ) 71 ) 80 ) 76	61 65 67	6 5 5 6	3	2 5 4	9 6 8 5		1 8 15 0	0 0 4 3	22 3 6 25	5 4 2 10	0 20 16 5	20 15 13 8	62 62 62 62	5 5 7 0	19 21	2-25NW 30NW
SASKATCHEWAN— Battleford Moose Jaw Prince Albert Qu'Appelle Swift Current		50 53	21 I 10 I 30 I	08 20 05 35 06 4 03 47 07 43	1759 1432 2115	2022	9 91 9 97 9 91 9 98	36 30 31 33	07 4' 53 53 38	29 24 29 29 29	53 ( 50 ) 45   52   50	0.54 0.99 1.08 1.04 0.88	63 61 74 67 72	3 5 6 5	.6	1 5 11 5 0	2 10 10 3 5	2 16 6 7 6	15 8 5 10 12	1 0 7 8 3	5 12 1 5 7	5 8 1 6 12	16 10 6 15	15 24 15 0 7	62 9.3 62 62 62	7 4 4 2 9 8		9SE 28NW
Manitoba—  "Aweme (St. Albau's)  Minnedosa  Le Pas  Winnipeg	-	50	42 9 15 9 49 1 53 9	9 50 01 15	1699	25	, 99	131	60	29	- 50 1	86 10 07	63	6 6	- 8 4	2 6 19	16 13	9 5 7	2 9 13	0 4 9	2 5 4	3 9 4	10 7 23	1 1	36 62 93	8 3 10 9	28	12N,NW
ONTARIO— Cochrane Guelph Haileyhury Kungston London Alindsay London Alindsay Parry Sound Port Arthur Port Manley Southampton Stonechiff Toponto White River Woodstock		11 12 14 15 15 18 12 14 16 18 18 18 18 18 18 18 18 18 18 18 18 18	2 8 33 8 2 - 7 13 7 59 8 20 7 20 7 27 8 40 8 30 8 40 7 35 8 8	5 29 1 13 8 45 5 42 5 42 1 13 1 21 1 21 8 6 9 24 5 16	687 285 508 872 294 635 644 502 656 557	30 30 21 31 31 31 31 31	0 0 4 0 0 3 0 0 4 0 10 0 0 4 0 0 5 0 0 5 0 0 6 0 0 4	30 30 30 30 30 30 30 30 30 30	43. 45. 45. 45. 46. 45. 35. 41.	2.7 2.1 2.5 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7	68 0 72 1 77 0 82 0 68 0 52 1 69 0 71 0 74 0	74 04 77 74 71 67	67 66 66 84 77 84 76 79 59	6 6 5 5 5 6 5 6 4 4 6 4	11 9 6 9 6 8 11 6 8 5 4	8 0 16 8 6 14 12 5 10 0 12 11	6 11 2 15 33 12 4 5 5 5 6 2 4	5 1 3 4 3 6 13 1 23 15 3 8 14	5 15 4 5 15 11 3 6 11 8 7 1	9 0 7 4 0 3 6 2 0 4 0 2	3 11 8 9 15 12 11 14 3 4 15 0	5 4 7 9 0 9 12 13 8 9 8 15 16	12 11 6 7 21 22 4 7 21 17 12 6 12	9 0 9 1 0 4 0 5 0 4 4 30 1	62 93 62 62 93 62 62 62 62 62 62 62 62	3 10 5 8 4 7 1 10 3 8 2 5 1 11 8 9 7	24 22 33 22 14 33	1W 18SW 21SE 14E 8.9NW 9W 15E
QUEBEC-																							İ					
Anticosti S W Pr Father Point Montreal Quebec Sherbrooke	1	8	31 68 30 73 48 71 32 75	3 19 3 35 1 13 2 5	20 187 293 620	25	93 95 98 96	30 30 30 30	52 33 37 34	29 ( 29 ) 29 ) 29 )	07 1 23 1 57 0 40 0	38 10 80 94	87 81 58 67	5 5 6	5 17 8 12	15 6 6 3	9 5 12 33	18 6 8	32 0 12 2	5 3 16 4	0 10 12	5 15 11	16 6 25 20	6 6 1 0	93 62 93 93	13 6 11 0 12 2 12.2	37	UNE 25 W 2E 6SW
NEW BRUNSWICK— Chatham Fredericton St. John	- 4	7 5	3 65 57 66 17 66	36	21 164 70	- 25	97	30	53 52 48	28 5	08/1	54	79 70 75	6 6	8 12 10	7 8 8	5 12	15 11 8	4 15 6	1 14 18	10 5 15	7 8 10	12 23 13	1 2 3	62 93 93	10 9	40	30N
Nova Scotia— Habfax Sable Island (MStation) Sydney Wolfville Yarmouth	4	3 . 6 5	39 63 57 60 10 60 7 64 50 60	) 6 i 10 i 20	88 25 35 65	99	97	30	45 49 55 47 51	29 5	99-1	20	81 74 - 84	5777	13 15 16 16 16	3 10 13 5 13	21 15 19 12 8	2 3 10 5 4	6 17 3 5 4	11 3 9 5	9 13 14 6	3 8 6 11 9	7 24 17 12 9	0 0 2 1	62 93 93 62 62	11 5 15 3 12 3 11 2	40 50 34	30SW 30 SW 17NE30N
P. E. ISLAND Charlottetown .		ń	14 63	10	35	į			50 :				79	7	17	10	13	3	5	10	7	2	5	8	62	7 2	30	30SE
Newfoundland Burin Fogo Port hav Basques St. George's St. John's Bermuda Prospect	1	7 7 7	0   55 43   54 35   55 27   58 34   52 17   64	17 10 31 42	21 125	29 29 29	83	30	52 : 55 : 51 : 35 :	29 1	16 1	35	- 83 72 83	8 7 7	19 11 12	6 2 5	3 7 6,	20 10 5	3 1 6	2 8 4 20	3 9 16	10 5 5 6	12 20 12 27	0 3 0	62 62 62 93			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF MAY, 1913

			DIR	ECTIO	S = O	E /// ]	ND_F	ROM		
STATION	ź.	ž Ž	सं	S.	x	. S.		N.W.	ပ	Total number of Observed
BERTA-										
Athabasca Landing	4	1	6 5	2	1	_'	7	8	0	31
Didsbury. Endiang.	1	4		3	()	ч	3	4	0	29
Halkirk (Emsburg)	7	2	6	19	ŝ	5	4	14	U	62
HillsdownLoveland	1	8	0 2	25 18	8	5	0 5	17 16	6	62 62
Macleod	3	0	s	()	0	Ü	34	()	17	62
Pakan (Victoria) Ranfurly (Waitefield).	5	5	22	17	6	7	12	12	7	93
SKATCHEWAN—	0	3								
Crescent Lake			4	11	C	()	5	8	0	31
Fort Qu'Appelle. Grenfell (Brownhill)	0	4	11	2	1	4	2	3	4	31
Grenfell (Brownhill)	0	1 9	8	13 16	0.3	12	14	13 13	. 2	62 62
	5	9	S	13	13	59	6	25	5	93
Larchmount (Glenbryan)	0	5	14	7	1	10	21	4	θ	62
Moosomin Muenster (St. Peter's Monastery)	(i	7	9	ti	11	1	3	17	0	60
Onion Lake										
Pense (Gatesgarth). Waseca	0	1	s 1 ()	13	()	() (i	3 13	9	4	31 31
ANITOBA—										
Berens River		11	5	19	. 0	11	8	15	16	85
Hillyiew	2	7	14	20	4	11	6	29	O	93
Moose Horn Bay (Aitkensville)	11	7	6 9	5 9	6 4	1	1 8	2 8	9	48 62
Oak Bank	18	4	5	6	3	6	11	6	3	62
Stony Mountain	ti	10	4	10	8	4	5	13	0	60
TARIO — Agincourt	1	4	11	4	7	16	11	39	0	. 93
Alton								*		
Beatrice	17 17	0	1 1 1	3 5	14	6 3	8 2	13 10	31 7	93 62
Birnam Clinton	3	2	4	9	6	7	5	26	0	62
Cottam	12 17	1	11	.9 4	13	5	11 15	10	20	62 93
Gravenhurst North Bruce	10	2	15	()	21	5	25	15	0	93
Orillia	1	1	0	0	2	2	3	1	0	10
Owen Sound	21	1	2	6	19	4	7	2	0	62
Port Dover Stoney Creek	3	5	3	0	(5	1	5	8	0	31
Stoney Creek	5	12	14	7	1	1 4	35	5	0	93
Wexford.	1	0	4	I	t)	4	2	13	6	31
EBEC—							26	4	0	93
Abitibi	27 15	1	11	8	15 26	2	0	15	0	93
Anticosti, Heath Point	15	19	11	3	16	9	9	2	.9	93
Abitibi Anticosti, W. Pt. Anticosti, Heath Point Bicquet Brome	11 26	42	0	0	10	3 (5	32	11	13	93 93
Cane Chatte	26	9	34	0	()	3	23	5	17	93
Cape Magdalen	.5	1	4	8	13	3	5	36	18	93 31
Cape Chatte. Cape Magdalen Cap Rouge. Chicoutimi	20	8 29	()	()	0	12	0	28	19	93
Clarke City		-21								
Manouan Crossing										
w Brunswick – Dalhousie	()	()	16	0	()	0	12	2	0	20
Moncton	19	4 7	15	1 8	()	0 16	1 7	18 9	0	31 81
Pt. Leprcaux Sussex	12 2	11	()	- 11	()	2	í	3	12	31
va Scotia—										
Kentville	4	2	4	3	3	2	7	6	0	31
Parrshoro Port Hastings Sable Island, E. Pt	0	4	0	. 9	1	1.4	0	3	0	31
Sable Island, E. Pt	28	7	. 4	8	10	10	13	12	. 1	93
				10	20	16	4	14	()	93

## MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF MAY 1918.

									Hot	ns En	DING							
STATION.	4 a.m.	5 a.m.	6 a m.	7 a.m.	8 a m.	9 a.m.	10 a.m.	11 a.m.	Noon.	1 p.m.	p m.	3 p.m.	4 p.m.	5 p m.	6 p.m.	7 p.m.	8 p.m.	9 p m.
Vietoria			.03	17	.32	.40	49	.47	50	.55	53	. 53	52	. 42	.34	. 07		
Salmon Arm			.18	43	52	54	66	66	.61	57	56	.57	53	. 51	.44	28	.03	
Vancouver		03	24	.35	. 39	43	47	.49	.52	52	50	.45	41	.39	.32	. 22	_01	
Agaesiz				15	26	27	36	.37	40	41	40	.36	33	.32	25	04		
Franquille															ļ			
Summerland		15	50	53	48	59	52	. 59	49	53	49	.42	51	47	. 47	.19		
Kamloops		01	05	18	43	60	75	60	72	66	67	. 62	57	42	15	. 03		
Harper's Ranch .		03	. 24	37	44	51	56	61	54	64	56	47	45	44	15			ļ
Edmonton		06	27	56	54	61	66	64	70	59	.68	. 61	58	60	59	44	.07	
Lethbridge.			. 25	46	46	57	66	71	67	63	59	59	59	54	. 43	. 27	_10	
Lacombe		06	48	60	63	64	68	74	74	75	71	67	68	59	. 55	44	.01	
Medicine IInt		Т	25	48	57	62	67	68	67	65	63	62	52	62	54	24	.01	
Fort Dunvegan																		
Fort Vermilion																		
Battleford			12	42	55	69	.73	77	84	88	55	86	73	63	48	18	. 01	
Indian Head			. 11	27	43	43	47	51	51	48	51	.50	48	.39	37	.19	.01	
Moosejaw																		
Scott .	03	35	48	54	57	56	55	58	.67	67	60	57	. 57	57	47	22	.01	
Ro-thern		.04	31	50	51	52	49	47	. 50	58	.54	.58	57	_65	58	47	.06	
Brandon				29	48	. 52	63	61	64	61	60	65	69	49	21	20		
Winnipeg .			12	37	46	43	. 53	. 55	.58	64	63	64	. 54	. 57	. 58	. 24		
Haileybury .		01	. 15	31	43	41	4.5	55	.56	56	57	55	. 45	53	. 43	. 35	.06	
Woodstock			16	46	60	.65	67	.71	68	66	68	67	62	60	54	15		
Lindsay				27	49	58	68	67	70	67	66	64	57	57	43			
*Barrie			10	26	36	.48	57	64	65	65	61	. 56	.56	.51	42	.03		
Toronto			19	59	61	. 65	70	74	72	69	.70	73	66	.69	.58	34	.01	
Kingston						. 00												
Ottawa			29	52	56	60	65	63	63	fi8	65	61	_64	. 63	.56	. 28	.01	
Montreal			23	49	60	.58	.62	55	51	56	. 59	.58	. 56	.55	.41	09	.01	
Cap Rouge			13	39	52	_55	. 53	61	65	60	53	.59	.53	.48	41	.18		
Quebec			07	29	48	54	. 53	64	61	60	. 53	52	.50	.45	.37	.13		
Ste Anne de la Pocatiere .		18	41	39	41	48	. 54	. 53	.57	53	55	49	43	.34	.23	01		
Sherbrooke					71		.04	, 00			0.0	13	10			01		
Fredericton			21	51	50	48	46	.54	53	44	38	_40	.44	.41	36	.18	T	
Charlottetown .			21	.51	40	45	46	. 54	38	38		.42	42	43	.36		T	,
		1									.36			37		.15		
			09	36	-45	.52	45	49	46	41	48	44	42		34	.24	.01	
		T	29	47	50	. 47	.49	.49	55	.49	47	. 50	44	-15	.40	25	.01	
* 25 days only	1	1 .	10	37	16	44	50	54	55	61	48	. 47	46	38	29	. 20	T	<u> </u>

<sup>\* 25</sup> days only

# SUMMARY OF SUNSHINE RECORDS

Tredefictor a wotestotted <sup>()</sup>	_=	- 4		25	-	Ξ
Tredencton						
	7	2.0	19	33	10	-
5/terbrooke						
al sh sant st8 switzsoT	2	=		5.	2	
Quelier.	7	7.2	Ξ	52	2	**
ozeoH qz')		:=	1	ŝ	-	
Routroll		73		9	ŝ,	
R.W.(†1(1)		13	13	=	3	-
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oproze L	129	- 6	ŝ	Ē	Ξ	-
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Private 6 Days Estimated

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### Thunder recorded:

- 1. Kakabeka Falls, Schreiber, Markdale.
- 2. Brome, Cap Rouge, White Shore Lake, Lake Edward, Bark Lake, Port Arthur, Quebec, Shawinigan Falls, Campsic.
  - 3. Rapid City, Aweme, Cap Rouge, Quebec, Muenster, Fredericton.
  - 4 Qu'Appelle.

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- 6. Brome, Chicoutimi West, Montreal, Quebec, Shawinigan Falls, Rutherglen.
- 7.
- 8. Rock Creek, Grand Forks, Hope, Nicela, Keremeos,
- 9. Chilcotin, Asheroft.
- 10. Berninda
- 11. Clemens, Alkali Lake.
- 12. Wiarton, Oakbank, Birnam, Lucknow, Bruce Mines, Kakabeka Falls, Winnipeg, Southampton, Qu'Appelle, Cowley, Quesnel, Salmon Arm, Perry Siding, Chilcotin, Elko, Chilliwack, North Bruce.
  - 13. Brantford, Clinton, Port Stanley, Salmon Arm. Tappen, Pend d'Oreille.
  - 14. Birnam, Perbeek, Springdale, Clemens, Tappen, Perry Siding.
- 15. Brantford (Bow Park), Georgetown, Stoney Creek, Birnam, Paris, Madoe, Brantford, Lucknow, Wexford, Port Dover, Cartwright, Calgary, Medicine Hat, Port Stanley, Toronto, Ranfurly, Daysland, Hillsdown, London, New Westminster, Okanagan Mission, Nelson, North Bruce, Ninga,
- Westport, Deer Park, Almasippi, Treherne, Agincourt, Brantford, Norwood, Parry Sound, Wetaskiwin.
- 17. Westminster, Wiarton, Emsdale, Birnam, Paris, Lucknow, Clinton, Port Dover, Goderich, Parry Sound, London, Chilliwack, Armstrong, Okanagan Mission, North Bruce.
- 18. Westport, Madoc, Peterboro, Brome, Mistassini, Cap Rouge, Bark Lake, Stoneeliff, Quebec, Southampton, Lindsay, North Bruce.
  - 19. Windsor, N.S., Norwood, St. John, Charlottetown, Tappen.
  - 20. Springdale.
- 21. Brantford (Bow Park), Birnam, Paris, Brantford, Lucknow, Clinton, Port Dover, Port Stanley, London.
- 22. Westport, Hillview, Birnam, Haliburton, Cartwright, Port Stanley, Qu'Apelle, Hillsdown, Sion, Fort Qu'Appelle.
- 23. Liverpool, N.S., Hillview, Calgary, Perbeck, Ranfurly, Halkirk, Hillsdown, Didsbury, Clemens, Sion, Chaplin, Rathmullen, Kenora.
- 24 Emsdale, Madoe, Haliburton, White Shore Lake, Edmonton, Swift Current, Perbeck, Ranfurly, Wetaskiwin, Kindersley, Pambrum.
  - 25. Rapid City, Hillview, Brandon, Oakbank, Aweme, Montreal, Qu'Appelle, Springdale, Sion.
  - 26. Minnedosa, Sion.
- 27. Rapid City, Hillview, Aweme, Cartwright, Beaver Mines, Grenfell, Chaplin, Pense, Pambrum, Melfort, Rosthern, Rathmullen, Saskatoon, Hydranlic.
- 28. Westport, Emsdale, Almasippi, Treherne, Morden, Aweme, Montagne, Kenora, Cartwright, Aitkensville, Minnedosa, Qu'Appelle, Ranfurly, Kindetsley, Melfort, Rutherglen, Ninga.
  - 29. Liverpool, N.S., Morden, Oakbank, Kingston, Ranfurly, Kindersley,
  - 30. Cartwright, Edmonton, Dunstable, Ranfurly, Campsie, Sion, Alkali Lake, Halkirk,
  - 31. Almasippi, Treherne, Oakbank, Kenora, Cartwright, Le Pas.

98 Auroras recora 1 1. Sion III. 2. Sion 111. 4. Rapid City I. Awe - H. Cartwright I. Edmonton H. W. (1990) - I | Rive Cross of R furly 1. Melfort IV 5. Aweme IV. Schreiber IV. Port Arthur II. Peace River Cosses have by II. Patabourn I. 6. Aweme IV, Kakabeka Falls IV. Ranfurly IV. 7. Haileybury IV. 9. Schreiber IV. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. Minnedosa II. 20. 21. 22. Cartwright IV. 23. Cartwright IV, Edmonton III. 24. Aitkensville III. 25. Port Dover.

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31. Ranfurly I.

### FORECASTS FOR MAY 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1192 These were divided as follows:—

				Verifi	ED.	
	District.	No. Issued.	No. Fully.	No. Partly.	No Not	Per- centage
Alberta .		51	64	12	5	86 4
Saskatchewan		81	62	16	3	86 4
Manitoba		80	60	17	3	85 6
Lake Superior		116	89	2.2	.5	86,2
Lower Lake Region		110	83	22	.5	85.5
Georgian Barr .		110	81	22	7	83.6
Ottawa Valley		89	79	8	2	93.3
Upper St. Lawrence .		54	76	11	2	91 6
Lower St. Lawrence	22	507	56	17	4	88.3
Gulf		111	78	29	4	83 3
Maritime Provinces West		109	91	15	3	90 4
Manitime Provinces Last		109	90	17	2	90 4
Total		1192	939	208	45	87.5

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, June 25th, 1913.



## DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

JUNE, 1913

No. 6

### INTRODUCTION.

In compiting the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storms-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

### TEMPERATURE.

### BRITISH COLUMBIA

On Vancouver Island and along the Fraser River mean temperatures were from 1 to 3 above average. Locally along the Fraser, however, there was a deficiency of about 1. In the Okanagan Valley and Southeast Kootenay there was an excess of about 2. In other parts of the Province differences from average were very irregular. The first week was very mach warmer than usual, but during the third week temperatures were considerably lower than average

### WESTERN PROVINCES

In the country about the Red Deer and Bow Rivers the average temperature was exceeded by 4 or more. In Northern Alberta, however, the excess over average was only 2. In most parts of Saskatchewan the excess was between 2 and 3, but in a few instances was more than 4. It Manitoba the difference was also positive and almost uniformly 3.

### ONTARIO

In the Rainy River and Algonia Districts temperature conditions were very similar to those which obtained in Manitola, the average having been exceeded by 10 at 2 ± 4. In the remainder of the Province the differences from average were in nearly all cases now two advanged between 1 and 3. In the counties bordering on take Outario, however, there were a positive departure from average amounting to less than 1. The first eleven days of the near the commence color than is usual in June, but the latter half of the month, with the exception of the 18th, 19th and 20th, was very warm, maximum temperatures exceeding 90 having been recorded or the 16th, 27th and 30th

### QUEBEC.

In the Abitibi region the average temperature was exceeded  $\psi_{ij}$  or 2. out along the Middle and Lower St. Lawrence and Gulf there were negative departures  $\psi_{ij}$ ,  $\psi_{ij}$  or a ranging between 2 and 4. From the 3rd to the 14th and on the 18th, 19th and 25c,  $\psi_{ij}$ ,  $\psi_{ij}$ , were considerably lower than normal, but the month ended hot.

### MARITIME PROVINCES

Even in inland towns there were about 5 days on which the temperature did in t exceed 65, and 75 was exceeded on 1 day only. Light frost was recorded in most districts twice during the first two weeks. The monthly mean temperatures were generally 2 lower than normal.

### PRECIPITATION.

In British Columbia and Alberta, along the Qu'Appelle River in Saskatchewan and locally in Manitoba the normal rainfall was well exceeded, but elsewhere in Canada there was a general deficiency. This deficiency was nowhere very great in the Western Provinces, but was very marked in many parts of Ontario, Quebec and the Maritime Prayinces.

### HIGH AREAS.

Six areas were charted. One moved in from the middle Pacific Coast, one from northern British Columbia and the other four first appeared to the northward of Saskatchewan. With one exception the areas were comparatively feeble. This appeared over Saskatchewan on the fifth and with increasing intensity moved slowly southward to the Gulf of Mexico. Four of the areas passed across the Great Lakes, while the remaining two passed to the northward.

### LOW AREAS.

Seven areas of low pressure were charted. Five first appeared over British Columbia, one developed over Saskatchewan and one which was unimportant, near James Bay. The general track was across Canada well to the northward of the Great Lakes to the Gulf of St. Lawrence.

102 WINDS, JUNE: 1913

#### Greatest Mileage Greatest Mileage in I Hour PROVINCES AND STATIONS Total Mile of GENERAL Millor in 24 hours DIRECTOS BRITISH COLUMBIA. 271 S E.S SW 163 >WKamloops. 251 ALBERTA Edmonton SE \*Calgary. VII SASKATCHEWAN Batrleford SE NE,E,SE SE SE Prince Albert. Swift Current Qu'Appelle... 475 MANITORA The Pas.... ... Winnipeg..... 294 613 NE W 813 ONTARIO. Port Arthur. White River Cochrane Parry Sound. Sou.hnmpton. Pelee Island. Woodstock Guelph. Toronto NW E 11 412 304 365 557 359 432 279 229 SW Z.M. SW 777. 817.817 SIL ZIL ZIL NW NE W SW NW 31 12 Toronto Kingston. Stonecliffe 211 211 211 Ottawa . QUEREC. 647 34 SW 11 SW 5538 7885 9434 8445 SW W SE W 550 NE W 39 W.SW 556 NEW BRUNSWICK NW NW NW.SW 359 497 571 NW SW NOVA SCOTIA Yarmouth..... 8192 558 31 sw Yarmouth Wolfville... Halifax Sable Island... Flat Point. 551 40 SW2 3 XE 9510 5 14 10 w 646 44 NE PRINCE EDWARD ISLAND Charlottetown..... 11 SW

<sup>\* 29</sup> days only.

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA. JUNE, 1913.

\*Stations not furnished with Registering Thermometers

							Темре	RATURE.				Риво	IFITATIO	N.	niore.			
STATION	Latitade N.	Longrunde W.	Lievation above sea level in fect.	Уеап	Daforence from	YE'S Observations	Inglest	Late	Lowest	inel	Mran daily range.	Anourt	Difference from average.	Brancet fall in month.	with Alor	'E	No. of auroras.	No. of fogs.
British Columbia-																		
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TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF  $-\gamma \chi_{\rm DA}$ , JUNE, let.

Stations not furnished with Registering Thermemeters

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The Bow River																		
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### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JUNE, 1913.

\*Stations not furnished with Registering Thermometers.

							Темре	RATURE.				Pre	CIPITATIO	ON.	more.			8 11 3	
STATION	Latitude N.	Longitude W.	Plevetion above sea   level, in feet.	Mean.	Difference from average.	Yr's observations.	Dighest	Date.	Iowest	Date	Mean duily range	Ameunt	Difference from average.	Heaviest fall in month.	Days with .0! or m	No. of fair days	No of Auroras.	No of thunderstorms	No of foes
SASEATCHEW IN-																			
Qu'Appelle Rever	0 /	0 /	1950															1	
Broadyiew Brownfull (Greniell P ) ; Brownlee Buchanan Crescent Luke	50 23 50 23 50 45	102 33 102 53 106 0 102 25	1957	59 9 59 8 62 7	+ 1 0	9	90 0 87 0	11	30 0 30 8	ti î	24 2 23 3 24 2	5 51	+2 25 	0.43	13	15		6	
Estevan Fort (Qa'Appelle Hubbard Drunnigue) Humboldt Immorial	49 12 51 5 52 12 51 22	103 4 103 21 105 9 105 23	1858	51 6 51 6 60 6	+ 2 6	10 2 6 5	88 0 92 1 86 0 82 0 85 0	11 11 12 11 10	39 H 16 S 30 0 23 0 32 5	5 6 6 6	21 8 23 2 30 9 23 2	5 60 2 38 1 60 2 78 2 45 4 37 2 91	+3 15	2 15 0 36 0 56 1 00 0 48	9 12 6 8 10	21 18 24 22 20		7	
Indian Bead . Kumsack.	50 28	103 40	1024 2064	61 3 60 8	÷ 0 6	24 2	88 0 93 0	11	33 0 2.1 0	5	22 9 24 7	2 91	+0.39	1 40	10 8	20 22			
Manor Morseshill Morseshill Morseshill Morseshill Morseshill Pelize Pelize (Galesgath) Qu'Appelle Qu'Il Lake Regina Strassburg Yarbo (Fartheld) Yellow Grass	49 43 50 21 50 0 52 0 52 25 50 20 50 30 52 4 50 27 51 5 50 39 49 49	102 2 105 35 101 37 105 0 105 9 105 0 103 47 104 14 104 37 101 57 102 4 104 9	1759 1884 1870 1879 2115 1800 1885	63 3 62 4 59 1 58 7 63 0 60 6 61 5 61 2 61 7	$\begin{array}{c} & 4 & 2 \\ + & 4 & 5 \\ & - \\ & + & 3 & 4 \\ + & 1 & 9 \\ & + & 1 & 3 \\ & - \\ & - \end{array}$	17 12 7 2 17 29 27 6	88 0 100 0 82 0 83 0 85 0 86 0 86 0 90 0	10-11 10-11 10-11 11 11 11	33 5 . 21 0 28 0 34 0 33 0 34 0 34 0 34 0	3 5 6 3 2 6 1-3 5 2	24 7 30 1 22 3 24 0 23 2 22 6 23 6 27 7 23 9	2 64 2 63 5 55 3 47 4 40 5 16 3 72 2 93 2 13	-0 38 -0 38 +0 75 +1 28 +0 43	2 13	14 9 8 11 11 13 13 	16 21 23 19 19 17 17 17 23		1 3	3
Yorkton .	51 11	102 29		62 2		4	90.0	12	32 0	3-n	26 8	2 13		1 00	7	23			• •
S. Saskatchewan Rever Chaplin Fast End (Divide) . Kelvinburst (Nashlyn) Kindersley . Latchmount (Glenbryna) Oliver Rathmullen .	50 26 49 31 51 46 49 21 49 54 51 20	106 39 108 49 108 10 109 29 107 27 108 57	2202	61 \ 59 8 60 4 60 2 60 3 63 6	+ 0 4	27 5 1 3 4 26	89 0 86 8 90 0 87 0 92 0 89 0	9 10 10-11 11 11	29 0 32 6 32 0 36 0 31 2 37 0	2 6 3 1-8 3	23 5 26 0 25 4 27 6 25 7 24 1	2 13 4 34 2 51 3 55 4 77 3 46	-1 24 	1 38 1 48 0 59 0 73 1 04 1 20	9 12 15 13 13 12	21 18 15 17 17 17	1	5 5 8 10	3
Swift Current	50 20	107 45	2408	00 17	+ 30	20	33 (1	117	37.0	.,			, 0	. 20	12			Ò	
Battleford Lloydminster Luseiand Omon Lake Prince (Meota) St Walburg Soott (Ex. Farm) Wasca.	52 41 53 18 52 5 53 52 51 0 51 59 53 6	108 20 1 110 0 109 34 109 59 108 20 109 30 109 29	1620  1700	61 5 58 3 58 7 58 0 58 1	+ 2 5	23 3 6 1 3 6	88 0 89 0 90 0 87 0 90 1 86 0	10 9 10 10 10 9	35 0 28 5 22 0 28 7 32 0	3 3 12 14 3	22 7 26 9 27 9 28.3 24 5	1.70 2.06 1.31 1.95 1.28 1.59	-1.77 	0 46 0 72 0 48 0 99 0 40 0 61	11 10 7 8 11 5	19 20 23 22 19 25		2	6
The Saskatchewan Forks																			
Chagoness (Star City) Duck Lake Melfort Prince Albert Rosthern Saskatoon	52 32 52 54 52 47 53 10 52 40 52 15	104 13 106 20 104 30 106 0 106 20 106 30	1432 1657 1571	60 8 50 2 60 9	+ 3 2 + 1 6	27 . 4 15	S4 0 85 7 90 0	8 11 11	35 0 35 0 33 9		24 9 22 3 22 1	1 98 1 87 2 92	-0 65 +0 41	0 51 0 48 0 87	11 9 13	19 21 17		9	
Lower Suskatchewan River																			
Cumberland House Lost River	53 56 53 17	$\frac{102}{104} \frac{16}{21}$		55 2	··	1 2	83 0	10-11	31 0	. 6	24 6	· 2 10	, _··	0.78	ii	19		ï	
Manitoba-														i		1			
On'Appelle and Assinibuine Rivers Aweme (St. Albans) Hoissovan Brandon Carberry Carman Cypress River	19 42 59 25 49 51 49 52 49 31 49 33	99 35 101 1 99 57 99 20 98 0 59 3	1180 1703 1176 1258 872 1232	65 5 63 6 62 9	+ 2 8 + 1 9	28 2 25 	94 5 93 0 90 0	22 24 22 	32 5 35 0 32 0	7 6 7-9	29 4 25 4 26 6 	2 64 1 99 2 34 4 00 2 89	_0_76	0 76	10 7 10  8	20 23 20 		2	
c uprass river Hillrews Minstre Nimat Proson Prostone Partage la Prorie Portuge la Prarie Portuge la Prarie Portuge la Prarie Portuge la Prarie Portuge la Prarie Victon	49 55 50 15 49 24 49 14 49 11 49 34 49 56 50 59 49 36 49 51	100 33 99 50 99 38 99 51 101 5 100 58 98 17 98 17 101 20	1400 1699 1363 1649 1531 1400	62 8 62 4 63 7 63 9 62 9 58 2 64 1 64 7 59 7 68 0 64 9 62 3	+ 2 9 + 4 1 - - + 2 9 + 1 9 + 5 8	28 29 2 3 8 26 8 20 1 18 8	88 0 95 0 94 0 90 0 92 0 90 0 90 0 97 0 92 0	22 11 23 23 23 25 25 12 22 14 21	35 0 30 0 34 0 34 0 33 0 31 0 39 0 32 0 40 0 34 0 35 0	6 3 7 6 7 7 2 3 6 6 1 7 5 6	27 3 22 7 24 9 29 4 25 0 33 4 26 7 24 2 23 0 25 8 24 8	2 89 2 93 1 59 3 40 3 72 4 45 1 63 3 69 1 33	-0 39 -0 48  +1 08 -1 14	0 48 0 56 1 42 1 47	11 11 6 9 7 8 14 4 13 5	19 19 21 21 23 22 16 26 17 25		8 5	1 2
The Red Rever Almasppi Mordon Oak Bank Stony Mountain Winnipeg	49 14 49 11 49 57 50 40 49 53	99 20 98 6 96 42 97 14 97 7	978 800 803 760	63 f 64 6 62 9 64 6 64 9	+ 3 5 + 2 7 + 3 2 + 3 2 5	11 8 18 32 39	94 0 94 0 88 5 96 0 91 2	24 25 29 25 21	30 0 29 0 31 5 33 0 33 8	7-8	29 6 26 0 23 3 32 6 24 2	2 35 0.83 3 52 2 75 3 27	+0 38 -0 34 -0,17	0 70 0 22 0 86 1 00 0 99	8 8 8 11	22 22 22 26 19		6 2 8	

\*Stations not furnished with Registering Thermometers

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ONIARO— The Lake Superior District Raing Eliver Fort Frances Keann Shoal Luke				ines	r s S		1	1020				1		_	1.42		~~/			
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Georgian Bay Counties Barrie		2,5	7.1	£75 806 660	+0-0 62-4		1	sie ie						. 14	0.75 0.75	1				
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Owen Sound Parry Sound Ronville Up'and Lake Huron Counties	15 15 15	1.1 15 45	10 59 72 21 80 99	597 1.05 1035	60 0 59 S	-1 <sup>1</sup> 1	.;	111	50	23.0			1.50		0.67	ł				
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### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JUNE, 1913.

• Stations not furnished with Registering Thermometers.

							T1.MP	ERATUI	:1:		1	Phie	IPITATI	ION	Eore			19.	
STATION	Latitude N.	Longitude W.	Elevation above sea level in feet.	Mean.	Difference from	Yr's Observations	Inchest	Dete.	Lowert.	l'ate	Moan dai'y mage.	Amount	Difference from Average.	Heavest fail in noath.	swith (1) or	No of fan days.	ō,	No of thunderstorms.	Nu. of fogs
Ontaro-Continued-						_									_	-	-	_	_
West-Cential Counties	. ,	0 /																	
Minn, Mantoord , Blores , Chiefy , Chiefy , Larowel , London , . Parts Sk Bouro , Strafford , Woodstrick	13 51 43 41 43 33 42 59 43 12 43 23 43 23 43 8	80 21 80 24 80 16 81 13 89 25	1250 750 1274 1050 808 810 1191 980	61 9 62 7 64 1 63 4 65 5 65 8	- 0 1 - 2 5 - 1 9 + 1 6 - 0 4 + 0 5	31 10 35 14 28 24 	92 0 91 a 90 0 90 0 93 0 93 1	27-34 34 50 30 16 50 	33 0 50 0 54 0 52 0 32 0 57 0	5 5-13 9-10 5-8	8 9 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	2 35 2 05 2 03 2 26 1 20 5 84	+0 15 +0 01 +0 01 +0 78 +1 15 +1 51 +1 62	0 69 0 69 0 79 1.02 2 40	8 8 8	23 12 13 12 22 1		8 1 7 6 	
Lake Ontario Counties												0.97							
Agneourl A grom Hamulton O dawe Foront > Toronto (s (Lakesal (Home)) 1 Abrilde Weyford	43 47 13 57 43 16 13 53 40 44 5 43 41	79 24	5: 0 886 303 531 350 886 555	63 4 62 2 64 8 61 4 63 2 60 4	+ 0.9	17 5 73 9 8	93 0 91 3 91 7 93 0 91 0 85 0	16 30 16 16 30 16	35 0 51 7 		$\begin{array}{c} 26 \ 5 \\ 25 \ 3 \\ \\ \hline \\ 24 \ 1 \\ \\ 24 \ 4 \\ 26 \ 5 \\ 23 \ 0 \\ \end{array}$	1 35 	-1 45 +0 17 -1 41 -	0 48 0 52 0 84 0 75 0 58	6	25 22 24 22 25		4  3  2	1
East-Central Counties																			
Benevolt Halbarton Kunnorst Laketneld Landsay Mulae Norwood Potechors' Usa.	15 1 15 1 11 45 14 25 44 20 44 30 44 17 44 54	77 50 .8 28 18 38 78 15 78 45 77 29 78 19 78 18	1950 920 850 872 575 722	61 6 61 7 63 0 63 2 63 0	- 1 1 - 0 5 - 2.8 + 0 3 - 2 - 2 5	22 24 14 33 9 1 37	93 0 93 0 92 0 91 3 91 0 89 0 88 0	27-30 30 30 31 27-30 24-25 16-39	29 0 27 0 28 0 34 9 35 0 31 0	7 8 4-8 10 8 8-9 8	28 9 34 3 31 6 29 3 28 3 26 6 27 6	1 05 1 24 2 26 1 19 2 02 2 30	-2 60 -1 05 -0 55	0 65 0 96 0 53 0 66	6 5 7 9 6	24 25 21 23 21 24		2 4 2 2 2	
QUENTO-																			ı
Middle St, Lawrence Brome Cap Rouge Cap Rouge Cabr Papais 17 Tands Matteil Quibec Starwangen Falls Shortmark Starwangen Falls Shortmark	45 10 46 46 45 55 45 30 16 48 45 27 16 34 45 52	71 18 71 21 73 33	678 132 856 187 256 620	58 8 57 3 61 1 63 5 59 2 62 9 55 3 59 8	$ \begin{array}{r} -3 & 3 \\ -1 & 6 \\ -2 & 0 \\ -4 & 2 \end{array} $		82 0 84 0 86 0 87 9 85 6 88 5 84 0	16-27 25 28 27 27 27 27 27 27	1.2 0 35 2 31 0 41 7 37 4 41 0 25 0 35 0	19 19 9 10 10 10	24 2 22 2 25 1 19 0 21 7 26 1 24 7	3 20 2 53 1 10 1 53 3 44 1 03 1 79 2 37	-1 45 -2 49 -0 86 -1 12	0 68 0 57 0 57 1 25	9 11 7 9 10 5 9	21 19 23 21 20 25 21		4 4 3	i
Lower St. Lawrence & Guif																			
*Actressi, P. Pr. Autressi, S.W. Pr. *Autressi, W. Pr. *Racquet *Chris Constro. *Caps M. in I don I. wher Pre. See Autre do in Pressure.	49 6 48 53 48 25 49 6 49 16 47 23	64 32 68 53 66 45	30 30 90 65	48 0 48 7.1 47 3 50 0 51 8 51 4	= 0 4 - 0 8 - 3 8 - 3 3 - 0 2	31 31 90	56 0 77 0 13 0 78 0 70 0 77 0 83 2	25 25 27 1 1 25 27	40 0 33 5 40 0 20 0 42 0 42 0 3 0 54 0	7 13 7-12 6 11 6 8 3 4 6	20 5 	3 14 3 42 2 73 2 25 1 60 3 17 2 62 1 33	+1 09 -0 01 -1 01 -1 63 +9 28 -6 55	0 46 0 60 0 50	7 13 12 6 5 15 15 15 8	23 17 18 24 25 15 15 22		1	6 3 2 3 5 1
Lake St. John																			
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New Burnswick - Chief nen Daffinene Froder eten Gesch Lift Mariet in Fro at Leptonix St. Usha St. Stophen Susser William Jorez William Jorez William Jorez	17 0 18 4 15 57 43 9 45 4 45 17 45 11 45 38	65 29 66 36 64 45 66 28 66 4 67 16	21 33 164 50 30 70 25 96	57 6 50 7 57 9 62 5 53 6 57 6 57 6 58 6 55 1	- 2 3 - 2 9 - 2 5 - 1 5 - 1 4 - 0 4 - 1 0 - 2 9	15 81 30 16	83 0 71 5 82 0 67.0 73.7 81.5 75 0	10-27 11 11 11 27 22 11 18-30	35 0 31 0 31 0 31 0 17 5 72 0 42 0 41 3 33 0 32 0	1 1) 1) 1) 1) 1)	24 3 1 ) 2 25 3 5 8 23 5 — 14 1 24 6 25 5	2 55 2 55 1 87 2 91 1 24 0 86 1 35 1 48	-0 18 -1 76 -1 09 -2 00 -2 59 -1 96 -1 69	0 90 0 43 0 75 0 75 0 90 1 0 17	12 12 8 6 3 10 6 8	18 23 18 22 21 27 20 21 21 22		1 3 2	1

TEMPERATURE AND PROPINITATION AT STATIONS IN THE DOMINIO : MADA JUNE, 1912

"Stations not furnished with Registering Thermometers

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PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER. &c., DURING JUNE, 1913.

			INFAL	Ileaviest		Amount	SNOW			REMARKS
STATIONS.	Amount in mehes.	Days .01 or over.	Fair Days.	Pall m Month	Date.	m naches.	No of Days	Heaviest Fall in Month	Date	
RITISH COLUMBIA—										
A 11 - 1 - 7 - 1:										
Arms (Canoe Porat) Armstrong	3 92	16	14	0.90	28					
Beaver take Co-quitlani Cariboo Roud No 111	1 30 5 62	9 12	21 15	0.04 1.57	21 2.1					
Cariboo Road No 141 Dennaa's Island	2 10 3 00		1)	115	15					
Fergus m Goldstream Łake -	3 00 2 24	15 13	15	0.45	19 30					
livdrauhe Horniv Island	2 24 2 49 2 15	1 i 10	16 20	0 48 0 81 1 05	20					
	1 71	13 17	17 13	0.38	28 24 19					
lordan River lordan River (Bert Check Little Qualicum(Lt Ct V 1	1 71 3 74 3 71 2 73	13	17 16	0.98	20 21					
Latrie Qualicum ( CCC) Latriby Nans Harbour	3 45 2 65	17	13	0.55	- S 20					
Nans Harbour Rock Creek	3.60	12	18	0.79	27					
tock Creek shawa gan Luke Vychife										
BERIA-										
Bardo	3 15 1 91	, 6	23 24	0.77	19 27					
Bismetk . Bruenetheim .	3 63	1.3	. 17	1.75 1.59						
Brittern Enke Brooks Beaver Mines	5 34 3 16	14	16 23 17 17	1 59	17 26 25 26 26 26					
Coloro in .	1 98 2_01	13 13	17	0 41 0 49	26					
Cowley Caldwell Claresholm	3 38	10 11	2)	1 33	25 26					
Clarestiolm Clarifich : Dorentes (Bashaw)	3 37	10	2 ) 25	0.82	14					
Danstable (Five Lakes)	3 0J 2 19 4 50	15	15	0 47 1 59	15 27	1				
Grassy Lake Jumping Pound			24	1 3)						
Loch Sloy . Lyndon	6 08	5 5	22 23	2 12 2 09	$\begin{bmatrix} & 19 \\ 26 \end{bmatrix}$					
Liacham . La Pearl Lethbridge .	6 08 5 10 1 01	44	24	0.28	15	1				
Lethbridge . Marleod.	5.53	111	16 18	0 28 0 79 1 85	28 19				10000	
Mayerott Mountain View	2 65 4 06	16 5 16	14 25	0 59 2 98	29 28					
Manny ille (Royetoft Rinch)	2 65 4 06 2 65 2 65 7 49	16 11	14 17	0 59	29 26					
Nauton Okotoks		14	16	1.83	26					
Ponoka	5 21 2 45	17 8 7	13 22	0 71 0 83	26 15	1				
Seven Persons Tilley	5 56	7	23	3 57	18	1.1				
Writing-on Stone (Coutts)	3 03	12	18	1 12	. 26					
ASKATI HEWAN					10					
Gulf Lake Gulf Lake (Fks. Swift Cur.)	3 62 3,94 2 22	12 8	18 22	1 22 1 98 0 56	19 20 19					
Gall Lake (Fks Swift Cur ) The Merdows (Ba(tle Ck ) Willow Creek (Maple Cr )	2 23	11	19	- 1	20	*11				
W.mashoe	2 47	11	19	0.62	20					
Manitoba— Chitwright	1 23	1 9	21	0.32	13					
Deforance	2 17		19	0.85	28				101-50	
Deforance Norman (Swin Luke) Rapid City Rose Bruk	1 31	11	15	0.40	22					
ONLYRO										
- Brantford Boy Park From	2 25	s	22	0 72 0 73	67					
Door Park	1 13 1 85	8 4 3	26 27	1.00	20					
Datton Eursdale For Program	1.88	10	20	0.72	20					
Fat Figures Georgetown Granthum	2 07 3 19	19	21	0 78 2 25 0 74	6					
Grand Valley	1 98	6 5	9.4	0.74	6.27					
Hillier MacCin Number Lall	0.83	4	25 26 96	0 4n 0 32	26					
Princeton Point Chirk	0 83 0 88 2 54 1 35	3 3	26 27 27	1 95 0 60		i				
Rantrew										
Syd-wham Strathrov	1 53 2 84	1	26 25	0.96	27	;				
Wathspil Westport Westmin fer	1 53 2 84 3 52 0 85 1 2 78	5 6	25 25	1 46 0 45 1 01	2					
Westmin (e) Winder Wesley	2.78	5								
Wesley, Wattenwyl,						. 1				
Watterwyl Warton	1.81		23	0.53		5				

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STATIONS	Ana 250 10 10 as	$\overset{\lambda_{ov}}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset$	No of Fair Days	Heaviers I to in Most'r	Dτ·	Am ount	No of D -		REMARKS
CEBEC-									
Bark Lake Riviere Deserti-	2.3	7	23	1 ()	3				
Kipawa Dam Lucerne Perkins Mills Quinze Dam Timiskaming	I 13 1 44 I 42 2 5	· · · · · · · · · · · · · · · · · · ·	25 25 25 18	0.55 1.74 0.51	1 2 2				
ew Brunswick-									
Point Escuminae	2 14		24	0.54	2				
OVA SCOTIA-									
B.g Mushamush Lake 'Ma- hone' . Keatville. Milton Mushamush River .Mahone Nappan South Alton. White Rock	1 ° × 1 29 2 63	7	23 23 26	0.71 0.63 1.00					

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF JUNE, 1913

### a Barometer not reduced to sea level

		a			_	Pressure.					idiry	ud. etely				Dis	Direction of Wind From						Victority of Wind				
\$1.1108		Latitude N.		Longitude W.	Devation above sea level, in feet	Viscon fundament		Mighiet	I con at	100.00	- Divine	Mean relative hunsidit	Mean amount of rioud.	So of ways completed	<u>x</u>	17.		7.	<u>«</u>	S.W.		N.W		Trial number of	Wear males per lear	Maximum	Date and direction from.
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FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF JUNE, 1913

	DIRECTION OF WINI								FROM				
		Σ. Ei				=		=		5-19			
STATION	7.	7.	E.	S.E.	X.	S	=	ż	j.	For of Others			
ALBERTA-									_	-			
Athabasca Landing	0	7	1 9	6.0	5	0.4	1.1	5	()	(5.)			
150di.018					1	4	2	0	1)	- 3			
Hadork (Emsburg) Hinsdown	3	5 9	9	15 17	5	3		13 30	()	6.0 foot			
Loveland	2	14	10	1.1	1	4	7	11	4	0.3			
	8	0	8	1	1	0	19	()	2.3	(5,1			
Ranturly (Waiteneld)	1-1	9	16	8	2		15	lə.	S	(1.)			
Chaplin	1	υ 6	5 0	9)	1	()	22	6	(1	24			
Crescent Lake Estevan	1	2	5	4 5	h 7	1	3	4	1	50			
Estevan. Fort Qu'Appelle. Greutell (Brownhil) Indan Head	1	5	1.5	1.3	3	3	10	4	8	L()			
Indian Head	2 5	7 12	3	20	. 8	5 5	2	13	17	500			
Larchmount (Glenbryan).	0	19	3	10	11	2	8	1.3 1.7	17	50			
Moosomin Muenster (St. Peter's Monastery)		5	4										
Omon Lake			4	13	12	65	4	9		(-()			
Pense (Gatesgarth) Waseca	()	1	3	14	2	1	3	15	(1)	30			
Manifoba—	()	:3	2	11	1	1	2	10	()	30			
Bereus River													
Brandon	3 6	21 18	3 6	12	1 7	(5	7	12	12	78			
Moose Horn Bay (Aithensville)	5	11	10	18	10	.5	10	16	7	87 (a)			
Morden	10	6	6	5	8	7	11	3	4	(50)			
Oak BunkStony Mountain	19 2	6 10	4	1 7	13 18	5 3	8 10	8 0	()	60 54			
Ontario			i										
Agincourt	2	1	11	16	11	22	5	20	2	50-)			
Beatrice	6	0	0	0	11	8	3	17	45	9.1			
Birnam	19	6	11	4	(5	2	.5	2	5	(51)			
Clinton Cottum	14 16	4	1 6	3	12	3 5	145	7	0	60			
Gravenhurst	14	2	- 3	5	7	5)	1.5	. 7	23	91			
North Bruce	7 6	2	3 '	1	4.7	6	1 1	13	0	50			
Owen Sound		1		+			·						
Pomt Clark													
Port Dover Stoney Creek	5 2	3 12	1 18	4	4	1.3	41	2	0	30			
Uplands													
Wexford	()	()	+	()	()	1	2	8	15	(21)			
Quebec— Abitibi	115	1	5	0	21	3	52	3	()	4913			
Anticosti, W. Pt	13	7	6		20	-4	1.1	26	()	5111			
Anticosti, Heath Point Bicquet				()		90		8	21	90			
Brone	30	- 2	1	1)	I iii	11	27	4	- 5	5(-)			
Brome Cape Chatte	10	1	13	()	15	f s	÷()	1	16	5(0)			
Cape Magdalen	1 1 1	2	()	3	22	2	-}	46	1.1	10			
Cap Rouge Chicoutimi	0	21	()	6	Đ.	1.3	0	19	21	5.0			
Clarke City													
Umouan Ćrossing White Shore Lake													
New Brunswick -										-14			
Dalhousie Moncton	5 ()	()	7	1	()	() [	11	3 4	2	20			
De Tanana	12	- 1	3	2	13	12	2.2	9	0	, 5			
Pt. Ecpreaux	4	2	()	()	()	3	.3	G	12				
Pt. Lepreaux Sussex													
Sussex	3	3	S	1	1	10	15	16	0	(51)			
Sussex  Nova Scotia—  Kentville Pairshoro	3		8		1	10	15 0	16	0	60			
Sussex Nova Scotia— Kentville		3		12									

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF JUNE 1913.

											-							
STATION.	Hours Enfing																	
	4 a m.	5ат.	6 a m.	7 a m.	Sam	9 a.m.	No a m	11 а.т.	Noon	1 p.m.	2 p m.	3 p m	# E	opm.	eurol 9	i	nr q x	0 p m.
Victoria			04	19	23	.32	37	52	56	6+	64	64	53	47	39	10		
Salmon Arm			2.1	40	58	70	60 ,	65	63	61	61	66	53	51	.53	41	US	
Vancouver		(16)	37	38	. 8	33	53	47	50	47	47	51	50	54	50	33	1.5	
Agassiz				10	31	39	44	46	41	47	43	45	4.3	4.7	43	16		
Tranquille																		
Sammerland		.16	, 36	€6	31	4.2	45	.51	60	51	äs	57	49	42	39	12		
Kamloopa		05	24	40	56	71	65	63	66	45	62	6.1	53	4.1	4.2	.04	04	
Harper's Ranch		(-5	30	31	411	47	50	51	53	- 1	51	51	16	43	20			
Edmonton																		
Lethbridge																		
Lacombe																		
Med cine Hat		0.2	41	51	63	67	.71	7.5	7.8		7.3	70	(1)	51	57	37	(3	
Fort Dunveran																		
Fort Vernation .																		
Battleford		Ü	- ^	35	55	43	tion	6.5	70		.72	69	65	59	50	4.3	0.8	
Irden Head			, 11	.50	51	1.3	55	55	67		6.2	62	55	52	45	3		
Moosepaw		50	51	51	177	. 63	- 61	11-2	69	64	35	55	55	53	52	.47	13	01
S-1t	0.1	19	33	11	52	60	5%	61	,62	60	60	32	51	51	41	21	05	
H esthern		1.5	4.3	47	20	54	57	52	55	16	54	.55	59	.55	54	.55	23	
Liandon			02	41	63	73	7.4	7.5	73		7.3	69	je.	31	10			
Winnepeg		03	47	63	73	76	17	77	50	42	52	79	7.2	7.4	71	. 45	(15	
Hadeylur.		10	19	61	69	67	72	77	76		79	77	70	67	62	49	62	
Veralistack			26	67	70	7.5	78	53	99	56	5.1	57	53	82	65	48	$\mathbf{r}$	
Listav				22	1.5	76	74	7.5	54		75	77	75	7.4	27	Т		
Parrie			16	62	.61	.69	711	.79	83	; -	Si	52	52	76	69	12		
Telegio			31	67	411	80	7.5	76	51	7	85	81	77	79	72	.55	06	
In eighton		12	28	(.0	69	7.1	72	70	51	1	81	81	78	78	70	46	02	
t Hawa		(0)	54	7.6	7.7	79	<b>`1</b>	+()	77		80	79	7.3	16	68	.51	69	
Mo. treal		0.4	57	7:	7.7	76	7.1	10	13		.72	7.2	6.6	.61	61	.32		
Cap House			5.6	1.0	6.7	71	(-)	7.1	76		63	62	25	11	161	.20		
Quiline			31	54	60	62	70	7.2	6.3	63	59	59	55	41	45	26		
Ste. Amerikati Pocation	15	46	51	4)		54	15	72	7.2	7.	63	62	41	42	.33	05		
Sherhandle .		13	53	5.1	60	51	62	7.2	67	1.1	65	66	6.3	61	54	as	1.2	
Light set u		0.2	25	£6	1.7		Extr	6,2	5.1	63	.67	67	65	18	60	5.)	(11)	
Charattetown		.07	.02	46	,00	64	.50	.78	62		68	.64	0-6	.65	56	45	02	
Naggar		T	93	52	61	n3	60	(0	70	fi.	61	.67	€6	65	69	.52	.21	
Wee're nor		1.6	35	50	63	.12	, 66	.70	64)	70	7.1	7.1	71	~1	6.2	.53	15	
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Wolfrille.	17	Æ		H		
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Edmonton.						
Harper's Ranch	Ξ	125		1.	-3	is.
Kandoops.	21	£	1	2	Ξ	1-
. Summerland.	191	Ξ	1	Z	13	~:
Tranquille.						
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Гавсоцует.	2	8	1	6	-	7.4
almon Arm.	51	-	1	2	٥	-
Victoria.	3	:3	=	7	-	_
	Registered duration in hours	Percentage of pos- sible deration .	Difference from average	Maximum percent- age in one day	Pate of maximum	Namber of days completely cloud ed

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SUMMARY OF SUNSHINE RECORDS

### Thunder recorded:

- 1. Montagne, Port Burwell, Port Arthur, Yellow Grass, Pense, Fort Qu'Appelle.
- 2. Liverpool, Reserve 40, Yarmonth, Haileybury, London.
- 3. Westminster, Madoc, Lucknow, North Gower, Ottawa, Lindsay, Didsbury, Halkirk, Clemens, Sion,
- 4. Cartwright, Rapid City, Westpert, Liverpool, Hillview, Awenre, North Gower, Fredericton, Halifax, St. John, Chaplin, Yellow Grass, Saskatoon, Rathmullen, Pense, Fort Qu'Appelle, Crescent Lake, Brooks, Perbeck, Clemens, Harmattan, Loveland, Ranfarly, Sion, Daysland, Campsic, Springdale, Hydreulic, Wilmer, Vavemby,
- 5. Reserve O. Haliburton, Kakabeka Falls, Hillview, Almasippi, Aweme, Oakbank, Treherne, Fredericton, Winnipeg, Minnedosa, Qu'Appelle, Saskatoon, Kind rslay, Crescent Lake, Halkirk, Harmattan, Layeland, Ranfurly, Sion, Campsie.
- 6. Princeton, Dutton, Westport, Georgetown, Brantford (Boy Park), Brone, Agincourt, Beatries, Paris, Rept; w., Bruce Mines, Peterboro, Macke, Morrisburg, Brantford, Annoua, Nerwood, Montagne, Wexterd, Clinton, Birnam, Lucknow, Montreal River, Kingston, Southampton, Parry Sound, Gray whirest, Livesay, London, Guelph, Loveland.
- Westigkaster, Deer Park, Big Clinte, Brantford, Port Stanley, Sion, Grand Forks, Greenwood, Princeton, Weneta, Armstrong, Ressland.
- 8. Pekisko, Dunstable, Mayeroft, Halkirk, Perbeek, Hillsdown, Sion, Beaver Lodge, Campsie, Okoroks, Nelson, Salmon Arm, Wilmer, Waneta, Rossland, Springdale, Hydraulie, Rock Creek, Invernore, Annis, Crawford Bay, Cresten, Elko, Grand Forks, Nakesp.
- 9, St. Stephen, Brooks, Beaver Mines, Pekisko, Nanton, Cowley, Clemens, Harmattan, Maeleod, Ranfurdy, Sion, Beaver Lodge, Campsie, Springdale, Inverance, Elko, Golden, Grand Forks, Nokusp, Nelson, Waneta, Perry Siding, Rassland.
- 10. Rathandlen, Prince, Divide, Perbeck, Clemens, Hillsdown, Harmattan, Sion, Okotoks, Springdale, Rossland.
- 14. Aitkonsville, Saskatoon, Rathmullen, Muenster, Kindersley, Gull Luke, Cowley, Harmattan, Sion, Springdale, Okanagan Mission, White Shore Lake.
- 12. Cartwright, Reserve 40, Haliburton, Aitkensville, Almaslopi, Oakbank, Winnipeg, Saskatom, Rathmullen, Pense, Fort Qu'Appelle, Sion, Beaver Lodge, Campsie, Springdale, Annis, Greenwood, Holley, North Nicomen, Okanagan Mission, Quesnel, Salmon Arm, Tappen, Perry Siding.
- 13. Cartweight, Rapid City, Emsdale, Reserve 40. Montreal River, Kakabeka Falls, Hillview, Aitkensville, Oakbank, Dunstable, Halkirk, Perbeck, Clemens, Lacombe, Hillsdown, Ranfurly, Sion, Campsie, Springdale, North Nicomen, Almasippi, North Gower, Winnipeg, Minnedosa, Qu'Appelle, Moase Jaw, Pense, Fort Qu'Appelle, Crescent Lake, Perry Siding, Wetaskiwin.
- 14. Rapid City, Georgetown, Reserve 40, Kakabeka Falls, Hillview, London, Perbeek, Clemens, Hillsdown, Ranfurly, Campsie, Springdale, Chileotin, Cresten, Elko, Keremeos, North Nicomen, Quesnel, Salmon Arm, Waneta, Perry Siding, Shawinigan Lake, Duck Lake,
- 15. Westminster, Georgetown, Brantford (Bow Park), Brome, Agincourt, Reserve 40, Paris, Bruce Mines, Peterboro, Madoe, Chilliwack, Hope, Nicola, Princeton, Salmon Arm, Waneta, Armstrong, Duck Lake, Brantford, Norwood, Fort Burwell, Clinton, Blamm, Lucknow Markdale, Woodstock, Montreal, Ottawa, Kingston, Springdale.
- 16. Princeton, Georg stown, White Rock, Point Lepreaux, Liverpool, Windsor, N.S., Grand Falls, Kentville, St. Stephen, Brome, Cape Chatte, Pambrum, Fort Qu'Appelle, Divide, Gull Lake, Brooks, Pekisko, Cowley, Manutain Yiew, Halkirk, Clemens, Lacombe, Sion, Campsie, Chicontimi West, St. Anne, Shawinigan Falls, Lake Edward, Cap Rouge, Big Chute, Paris, Renfrew, Morrisburg, Brantford, Iroquois Falls, Lucknow, Markdale, Manonan Crossing, North Gower, Fredericton, Yarmouth, St. John, Quebec, Montreal, Ottawa, Moose Jaw, Saskatoon, Rathmullen, Springdale, Chilectin, Nakusp, Nanose Bay, North Nicomen, Okanagan Mission, Vayenby, Armstrong, White Shore Luke,
- 17. Chicontimi, Almasippi, Yarmouth, Moose Jaw, Rathmullen, Pambrum, Divide, Gull Lake, Lethbridge, Sion, Summerland, Vavenby.
- 18. Cartwright, Liverpool, Almasippi, Invermere, Port Stanley, London, Kindersley, Fort Qu'Appelle, Duck Lake, Okamagan Mission, Princeton, Summerland, Wilmer, Tappen, Waneta, Perry Siding, Arastrong, Rossland, Pekisko, Cowley, Lethbridge, Alix, Halkirk, Perbeck, Clemens, Lacombe, Hillsdown, Macleod, Loveland, Ranfurly, Sion, Campsic, Springdale, Chilliwack, Creston, Elke, Grand Forks, Hope, Nakusp, Nelson, Monte Creek.

- 19. Westminster, Geres Jown, Brantford Bow Pares, Langue N. Bruce, P. S. B. ford, Clinton, Birmann, Later ow, Duck Lake, Fovermer, Concession Constitution, Brunan, Later ow, Duck Lake, Fovermer, Concession Constitution, Constitution, Phys. Rev. Bay, Cress et al. London, Saskatoon, Rathmullen, Pambrum, Bross, Beaver Mines, Pekisko, Concession, Marchael Creek, Perineck, Clemens, H., sdown, Harmattum, Machood, L. and, R. Shen, Spring Constitution, Samurorand, Wilmer, Tappen, Wanete, Perry Signer, Avessey 12.
- 26. Westminster, Brancford (Bow Park), New German, C. Charlet, C. Coutlind West, S. winingan Falls, Mistassini, Can Rouge, Paris, Kindersley, For (Q. Pyr.), D. de, Brooks, R. Can, Harmattan, Ranfurly, Sile, Campsie, Spring fall, Silme, Val. Rev. B. dm, Matter C. sseing, Anticosti S. W. P., Q. See, Port Stanley, H. P., burg, C. q. S. d. Summer, and W. eta, Perry Siding, Armstroph, White Shore, Lance.
- 21. Liverpool, IIII view. Port Stanley, Corp., in Saskatore, Retrieve Prince, Parence Pease, Divide, Bartle Crook, Ranfurly, Okanaga e Misson, Prince Co., Society, and, Armstrong
- 22. Cartwright, R. sert, 40. Aitkensylle, A., ssippl. Arten., O., et al., Tacherre, Battere, Halifax, Winniper, Mirressa, Moose-Jaw, Chap., a., Sasketten, K., dets., Drvide, Crescent L. ke., Gull Lake, Dunstable, 8 et al. Athabasea, Campsie, Springdal a Sanacca, et
- 23. Cartwright, Rapid Cry, Reserve 40. Hillyi w. Aithorsch. All Aspah Oakbank, Wildersch. Qu'Appelle, Chapfin, Saskato en Pambrum, Pense, Fort Qu'Appelle, Criscott Lake. Brown Uffrenfell , Sion, Okotoks, Springdale, Annis, Chilestin, Salmon Aric, Salmon and.
- 24. Cartwright, Reserve 40, Hillview, Aitkensville, Almasippi, Ongbeck, Morden, Troheme, Winnipeg, Minnedosa, Rathmullen, Crescent Lake, Halkirk, Clemens, Hillsdown, Ranfurly, Son, Departure Bay, Chileotin, Nolson, Perry Siding.
- 25. Emsdale, Brantford Bow Park , Agincourt, Bruce Mines, Port Dover, Wexford, Clinton, Birnam, Lucknow, Morden, Markdale, Kakabeka Falls, Meaford, Parry Sound, Winnipeg, Gravenhurst, London, Goderich, Loveland, Sion, Alberni, Chileotin, Nelson.
- 26. Westminster, Westport, Georgetown, Brantford, B. w. Park, Brome, Shawinigan Falls, Agincourt, Big Chute, North Bruce, Paris, Okanagan Mission, Princeton, Vavenby, Renfrew, Madoc, Brantford, Aurora, Montague, Port Dover, Clinton, Birmam, Lucknow, Markdale, Brandon, Meaford, Cottam, Woodstock, Montreal, Ottawa, Kingston, Parry Sound, London, Goderich, Clarinda, Loveland, Chileotin,
- 27. Cartwright, Georgetown, Brantford Bow Park , Point Lepreaux, Kentville, Cap Rouge, Big Chute, North Bruce, Bruce Mines, Battle Creek, Elko, Okanagan Mission, Rossland, Brantford, Port Burwell, Clinton, Lucknow, Orillia, Kakabeka Falls, Aitkensville, Aweme, Brandon, Fredericton, Quebec, Montreal, Ottawa, Kingston, Parry Sound, Port Arthur, Fort Qu'Appelle, Crescent Lake, Waterton Mills, Clarinda.
- 28. Rapid City, Georgetown, Reserve 40. Big Chute, North Bruce, Clinton, Hillview, Oakbank, Morden, Treherne, Halifax, St. John, Winnipeg, Minnedosa, Fort Qu'Appelle, Crescent Lake, Besmark, Waterton Mills, Cowley, Mountain View, Beaver Lodge, Hydraulic, Annis, Chileotin, Okanagan Mission, Vavenby, Tappen, Armstrong.
- 29. Cartwright, Rapid City, Lake Edward, Reserve 40. Bruce Mines, Oakbank, Southampton, Winnipeg, Chaplin, Lost River, Saskatoon, Pense, Fort Qu'Appelle, Crescent Lake, Waterton Mills, Dunstable, Cowley, Mountain View, Perbeck, Clemens, Hillsdown, Loveland, Beaver Lodge, Springdale, Okanagan Mission, Waneta,
- 30, Georgetown, Emsdale, Chicoutimi, Shawinigan Falls, Mistassini, Cap Rouge, Reserve 40, Ronville, Iroquois Falls, Birnam, Lucknow, Manouan Crossing, Quebec, Montreal, Gravenhurs', Haileybury, Goderich, Fort Qu'Appelle, Ranfurly Springdale, Hydraulie, Keremeos, Okanagan Mission, Tappen, White Shore Lake.

## Auroras recorded:

1.	Bruce	Mines $\Pi$ ,	Haileybur	y IV,	Perbeck
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3.					
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28.	. Whit	e Shore La	ake.		

29. 30.

## FORECASTS FOR IUNE 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1241. These were divided as follows:—

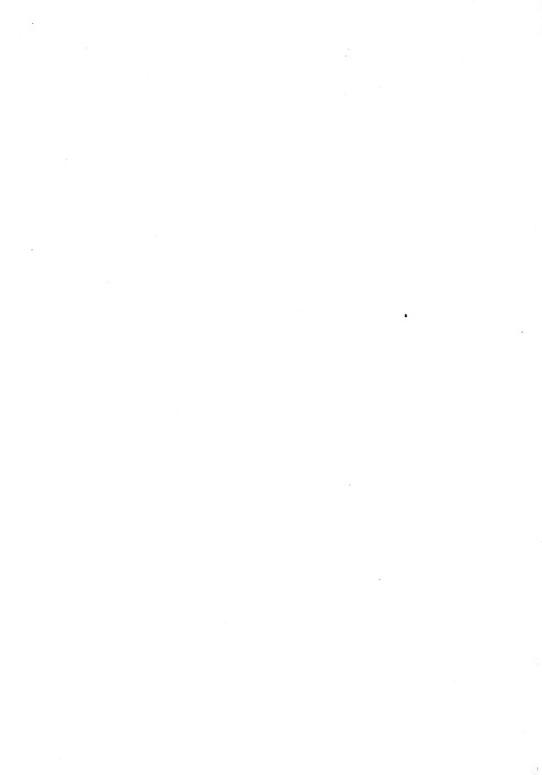
			VERIFI	ED.	
District.	No Issued	No. Tu e	No. Partly	No. Not	l'er- centage
Alberta	74	,	16		;
Saskatchewan	7.5	4.	1*	9	7
Manitoba	7.5		15	`	+ 1
Lake Superior	111		<del>-</del>	1 -	- :
Lower Lake Region	11	2	19	2	
Georgian Bay	11	4.9	21	4	57.1
Ottawa Valley	10.2		19	2	7
Upper St Lawrence	11.2		15	_	8 4 2
Lower St Lawrence	11:		25	11	5.1
Gult	12	7.4			7.2
Maritime Provinces West	117	7.7	23		78.2
Maritime Provinces East	1:7	-1	t	12	7/ 5
Total	1241		17		×1 *

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

Meteorological Office, Toronto, July 25th, 1913.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

JULY, 1913

No. 7

#### INTRODUCTION

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forceasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE.

#### BRITISH COLUMBIA.

During the first twelve days showers occurred frequently throughout the Province, while on Vancouver Island and the lower mainland the nights were cool. In the Kootenays the night temperatures continued to be lower than normal until the 18th. The latter part of the mouth was dry and hot. The mean temperature of the month was about 2° below average, except on Vancouver Island and in some localities along the Lower Fraser.

#### WESTERN PROVINCES

There were four or five days during the month on which the highest temperature was lower than 65°, while in few districts was 80° reached on more than five days. There was no frost, but on the 27th a minimum of 37° was recorded generally in Alberta and Saskatchewan. The mean temperature of the month was from 1° to 3° lower than normal.

## ONTARIO.

Except in the Lake Superior districts, where there was a migative difference of about 3, the mean temperature differed very little from average. Many districts reported a temperature of about 1 helow average, and others about the same amount above. On five days the maximum temperature was 90 or higher, and of the remaining days 13 had temperatures of 80.

## QUEBEC.

Temperature conditions along the middle St. Lawrence were a most identical with those which prevailed in Ontario, but elsewhere in the Province themean temperatures were 2 or more below average

## MARITIME PROVINCES.

In New Brunswick c, an temperatures differed very little from average, but in northern Nova-Scotia and Prince Edward Island there was a negative cultivation of from 1 to 3 .

## PRECIPITATION.

#### BRITISH COLUMBIA.

In the Okanagan Valley, about the Thompson River, and along the North Coast the precipitation was in defect of normal. Elsewhere in the Province there was a small excess. Most of the rainfall occurred early in the month and the latter part was hot and dry.

#### WESTERN PROVINCES.

The majority of stations reported a deficiency of rainfall. The amount was well distributed in showers throughout the month, while the actual deficiencies were in most cases small.

#### ONTARIO.

There was a general deficiency throughout the Province, which varied from 20 to 50% of the normal quantity. Heavy rains occurred in most districts sometime in the first week, but the remainder of the month was very dry, with light and infrequent showers.

## QUEBEC.

Rainfall was about 30% less than the normal amount. Showers were frequent, occurring on from 9 to 15 days, but, except at the close of the first week, were very light.

#### MARITIME PROVINCES.

In New Brunswick rain was recorded on from 7 to 21 days, and was in excess of average by about 25%, while in Nova Scotia the excess was smaller.

#### ATMOSPHERIC PRESSURE

From Kingston east to the Atlantic mean atmospheric pressure was from .01 to .08 of an inch below normal, while westward from the Great Lakes the general difference from average was positive.

## HIGH AREAS.

Seven areas of high pressure were charted. Two first appeared on the Alaskan coast, two on the coasts of British Columbia, two in the North Pacific States, and one to the northward of Manitoba.

The general track of the areas was over the Great Lakes, thence southeasterly to the United States Atlantic scaboard. They were generally of the usual summer type of feeble systems.

## LOW AREAS.

Nine areas of low pressure were sufficiently defined to allow of their paths being approximately charted. Five first appeared in the far northwestern portion of the continent; one near Vancouver Island, one in the North Pacific States, one in Lower California, and one in Northern Quebec.

The general course of the areas after leaving the western portion of the continent was far to the northward of the Great Lakes, thence over the Gulf of St. Lawrence.

122

## WINDS, JULY, 1913

PROVINCES AND STATIONS.	200	Greatest	Greates	t Mileage i	n 1 Hour	Nui	mher ii Da	. 5	
TROTTICLE AND STATIONS.	Total Mileage.	Mileage in 24 hours.	Miles	Direction	Date	Gales	Strong Win L	frest. Witeds	GENERAL DIRECTION
вигия Соптыва.									
Atlin	6928	348							
Prince Rupert Victoria	359 <b>2</b>	481	35	w		5	3	12	SW
Point Garry Vancouver							,	1-	511
Kamloops	2990	179	13	W	3-21-27-29			6	
LSERTA.									
Edmonton									
*Calgary	3235	274	19	7.11	10		1	1	SU
ASKAJCHZWAN.									
Battleford	6574			SW	7-14				
Prince Albert	4159	325	18				2	1 1	
Qu'Appelle	15-41	362	32	Z.W.	12	2	`	17	N.Y.
MANITOSA.	0.70								
The Pas Winnipeg	7578 8218	411 551	. 39	jy	Q	1 4	11	13	8W,W 8W,W
NTADIO.									
Port Arthur	7423	465	33	W	9	3	ŝ	15	NW
White River	6611	361	26	W	6	1	:1	11	
Parry Sound	4804 6762	392 655	20 36	SW, SE	7-12	9	5 10	6 4	NH.
Pelee Island	7343 6414	508 516	36 36	7.10	6 13	7 2	8	11	NW.
Guelph Toronto	67-89 770 <b>3</b>	478 591	36	11.	13	.3	2 8	12	SW SW,W
Kingston Stonecliffe	6320 3259	386 174	19	//.	. 7		1	5	SW
Ottawa.	3237	1/4						J	
LESEC.									
Montreal	9812	497	. 30	SW	1	4	7	15	SW
Sherbrooke	7512	429	28	SW	13	2	4	14	WS
Father Point	7531 8681	4º8 559	32	N SE	5 19	3	1 7	10	W SE
Harrington	8883	505	46	SW	3	5	11	11	1112
EW BRUNSWICK									
:Pt. Escuminac	4056	435	27	NW	25	1	4	8	8.811
FrederictonSt. John	490 <b>5</b> 69 <b>59</b>	334 392	22 31	NW,SW WS	25-26 26	3	5	5 11	W.8W 8
Pt. Lepreaux	6192	377	26	S	10	1	2	11	///
SOVA SCOTIA									
Yarmouth	6679	400	21	SW	1		2	12	SW.S
Halifar	7514	353	27	Ν.	23	· · I	1	19	11.511
Sable IslandFlat Point	376 <b>2</b> 876 <b>4</b>	321 414	20 32	SE NW	10 26		10	12 13	811,8E W
Charletter Island	41199	***	90	013	1 10	1	-9	6	211
Charlottetown	4923	381	26	SE	10	1	2	- 17	SW

<sup>\* 28</sup> days only. +29 days only. I is days only.

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA. JULY, 1913.

\*Stations not furnished with Registering Thermometers

							Темре	RATURE			Par	CHITATIO	N.	more.		
STATION	Latitude N.	Long:tude W.	Elevation above sea level, in feet	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest.	Date. Mean daily race.	Amount	Difference from	Beaviest fall in mouth.	Days with .01 or mo   No. of fair days.	No. of auroras	No. of thunderstorms
Винтын Соссыви-																
Legeneric Hard Alberta (Fig. 1) (Foods) Clay or particular (Close Cox (chan (1 zoulsdem)) Departure Bay. Gilbs Bay. Lady-mith. Nation-to. Nation-to. Nation-to. Saft Spring Island Shawman Lade Systema	49 1 49 1 48 5	5 124 49 1 125 55 5 123 42 0 123 37 7 121 12 0 123 20 11 123 44 24 123 19	25 \$5	$\begin{array}{c} 62 \ 2 \\ 60, 4 \\ 57, 5 \\ 62, 7 \\ 63, 8 \\ 61, 9 \\ 64, 2 \\ 61, 7 \\ 61, 3 \\ 62, 2 \\ \vdots \\ 61, 8 \end{array}$	- 3 6 + 2 2 - - - + 1.1 - - + 1 0	15 14 1 1 1 1 1 1 1 2 4 1	96 0 83 0 79 0 50 0 88 2 88 0 91 0 85 5 87 5 87 0 96 0	2 1 22-31 20-22 19 20 15-20 20 20 20 20 20 20 20	40 0 46 0 45 0 42 5 42 5 42 0 1 44 8 42 0 45 0 45 0 45 0 45 0	3-29 26 5 12 18 6 16 14 1 3-29 23 2 3 18 7 28 21 8 2 21 7 3 15 2 2 2-30 23 2 13 19 6 3 29 21 4 21 19 8	2 01 3 25 3 40 9 8; 1 58 0 77 1 34 1 33 0 02 0 45	+1 09 +1 14 - - - +0 56 - - - -	1 19 0 91 1 09 0 34 0 83 0 71 0 32 0 37 0 50 0 46 0 28 0 17	8 23 9 22 7 24 5 26 9 25 6 25 8 23 8 23 7 24		2 2 2 1 1
N. Vanwouver Island Hofferg Swanson Bay Frangle Island Quatsmo	50 S	39 128 18 37 126 53 52 129 5 32 127 40	6.0	55 6  55 1	+ 0 6	5 18	S0 0	21	45 0 45 0	3 14 1 ·	5 16 2 67		1 IO - 0 66	17 15  20 1		
Lower Frast v River Agaswa Chuliwack Hope Ladaer North Nicomen Pemberton Hardowy Pemberton Mendows Ruska (Stave Talls) Steveston Chriy Point) Vancouver	49 49 49 49 49 50	14   121   31 100   121   57 103   121   27 105   123   4 13   122   54 12   122   1 12   122   3 14   122   2 15   123   1 17   123   5	330 59	62.5 63.4 63.4 62.7 66.6 64.8 62.8 61.9 64.6 60.8	$\begin{array}{c} -1 & 5 \\ -0 & 7 \\ -1 & 2 \\ +1 & 1 \\ +0 & 2 \\ -1 & -1 \\ -1 & -1 \\ -1 & 1 \end{array}$	13 26 21 5 1	91 0 85 0 85 0 85 0 87 0 96 0 96 0 97 0 97 0 97 0 97 0	$\begin{array}{c} 22\\ -19\\ 18\\ 2 + 12\\ 19\\ 19 - 22\\ 2r - 21\\ 20\\ 21\\ 22\\ 23\\ \end{array}$	45 0 42 0 43 0 48 0 43 1 46 0 78 0 14 0 13 0 14 0	16 20 9 3 20.6 3 20.4 15 16 3 3 20 5 16 22 0 3 28 5 3 3) 2 3 25 5 3 17.9	3 71 2 53 2 54 1 65 1 68 3 52 1 66 1 35 3 72 1 36 2 03	+0 37	0.68 0.47 0.40 0.72 1.52 0.61 0.77	11 20 11 20 10 2 5 20 7 2- 12 12 8 2 14 1 8 2 10 2		2 1 2  2 2 2
Upper Fraser River Babue Luke Barketville Chilcotin (Big Creck) Fort George Fort St James (Stuarts Lake)	53 51	38 126 26 02 121 33 40 123 0  28 124 13	4180 3100	51 9 55 1 57,5	- 3 1 - 3 5	1	79 0 86 0 90 0	19-20 20 23-24	.2 0 31 0 50 0	3-8 24 8 3 25 2 26 33 0	2 W 2 03 1 0.		0 49 0 20	9 2	2	9
Hydraulie	52	59 122 3	1700	58 9 59 8	-24	18	92 0	23-24 24	35 b 39 0	3 30 <b>3</b> 8 26 8	3 47	+1 0	0 99 1 23	$\begin{vmatrix} 12 & 1 \\ 8 & 2 \end{vmatrix}$	3 .	1
Okonogra Felley Duck Lake Heilley Heilley (Nukel Pinte) Keremens Kelowan Okanogan Musion Princeton Richhards Summerland Vonon (Collstream Ranch	1) 49 49 49 49	3 113 20 35 120 10 15 119 22 29 119 3 20 120 22 36 119 4 14 119 1	1771 1200 1650 1100	66 2 66 5 51 3 67 7 64 9 65 5 61 6 59 8 60 8 64 5	-1 6 -1 5 -1 8	; 16 1 7	95 0 91 6 92 0 97 0 93 0 94 0	20 20 24 20 20 20 20 21 21 21 23 20 20	39 0 40 0 29 0 46 0 39 0 38 0 36 0 42 0 39 0	2 25 6 2 28.4 13 20 8 3 27 4 13 20 0 3 34 7 8 32 2 2-4 24 4 3 26 5	0 55 0 31 0 42 0 56 0 57 0 57 0 30 1 20	5 -0 5 4 -0 7 5 -0 7	0 18 0 17 0 88 0 10	4 2 6 2 4 2 12 1 5 2	577 99 66	1 2 4 1 1 3
Hest Kontenny Crawbert Hay Creston Grand Forks Greenwood Howser Kado Nikusp. Nelson Perry Stiling Rossbind Waneta	49 49 49	45 116 4 2 118 2 5 118 4 52 117 29 117 2 5 117 4	7 9 0 1752 1 1760	63 0 62 3 65 5 61 8 64 4 60 2 62 1 64 6 64 2 62 3		2 1 3 3 3 1 2 1 0 II 1 9	89 0 97 0 96 0 92 0 84 0 90.0 94 0 92.0 84 0	19-20 19-24 18-19 24 20-29 19-22	40 0 41 0 40 0 35 0 46 0 37 0 39 0 41 0 42 0 38 5	12 36 5 13-15 23.2 17 24 1 3 27 2 3 27 5 12 29 8 13 21 6	0 60 1 80 0 90 1 2 2 1 5 2 2 4 1 4 1 2 3 5	2	0 18 0 42 9 37 0 60 0 47 1 47 0 41 0 55 0 44 0 39	$\begin{array}{c cccc}  & 7 & 2 \\  & 6 & 2 \\  & 12 & 1 \\  & 5 & 2 \\  & 10 & 2 \\  & 11 & 2 \\  & 10 & 2 \end{array}$	5	3  1 10 2 5 6
East Koolenay Cranbrook Eiko (I raulands), Invernere Wilmer Thompson River Armstrong, Asberoft Enderby	19 50 50	34 116 4 32 119	5 2684 2 2650 4	61 2 64 3 61 3 62.3 72 8 64 1	-	9   18   1   4   1   1   4   20	94 0 93 0 90 0 91 0 102 0	20 21 21 21-24 24	33 0 40 0 41 0 33.0 47 0 36 0	30 25 6 15-17 23 4 3 29 0	1 2 2 1 2 2 1 7 0 7 1 1	4 -	1 07 0 69 0 38	6 2	2 1 5 10	1 1 1 1 3
Harper's Ranch Kauloops Monte Creck Nicola Lako Satmon Arm Satmon Arm (Exp. Farm) Tappen Tranquille		41 120 2 9 120 3 42 119 3 41 120 2	9 2120 5 1152	63 4 67 4 66 8 61 0 63 8 63 9 65 8	-2 -0	3 20	95 0 98 8 100 0 91 0 92 0	20 21 21 22 21–24 20 24 21 21	38 0 42 8 38 0 37 0 36 0 35 0 41 0	2 26 4 3 24 8 3 30 5 3 24 4 3 27 2 2 26.8 3 32 0	1 7 0 9 2 2 2 0 8 1 1 9 1 8	2 6 -0 3 5 -0 1 2 5 -0 1	0 74 0 0.28 1 10 1 0 25 0 37 0 4 0.45 0 26	6 10 7 5 5 7 12 14 10 14 11 11 11 11 11 11 11 11 11 11 11 11	5 1 24 26 9 21 17 20	2 2 5
North Columbia River Fauquer Glacier Golden Becelstike	51 51 51	14 117 2 0 118 16 116 5	9   4072 6   1476 5   2550	63 6 54 3 60 3 63 4	- 2 - 1 + 0	7   12 0   12 4   13	83 0	22 19	42 0 35 0 35 0 39 0	13-16 22 7	2 (	10 16 +1.6 15 +0 6 15 +0 4	0 33 5 0 8 8 0.73 6 1 I	2 8 3 15 5 3	23 16 28 24	2

\*Stations not furnished with Registering Therms meters

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STATION.		Latitude N	I ongrtude W	Elevation above se level, in feet	Mean	Difference from average	Yr's Observations	Highest	Date	lowest	Date	No conference		42 1	liensiest fallab	I was with 0 Lorin	No of farrold	No of auroras	Second thinnesseem	No of ferra
BRITISH COLUMBIA - Con		_														_	_	_		-
North Coast																				
Bella Coola	52	10	12± 54	150	59.4	2 6	16	87.0	2.3-26	30 (	3.27	1			Lo		21			
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Queen Charlotte Islands																				
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Ft Resolution	-1	,	113.0	800																
Alserta — N. Saskatchewan River Campsie — Coronation — Daysland — Edmontos — —	54 53	52 33	114 42 112 17 113 30 112 0	2158	57 8 59,6 58 2 6 1 4	- - - 1 1	1 3 30	84 3 87 0 87 0	19 20 24 24	36 n 41 n	30 12 3 12	25 1 25 1 24			2 D 1 - 83 1 (1	11	15.31.24		5	1
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I loydminster Loveland Pakan (Victoria) Ranfarly (Waitefield)	52 54 53	24	111 59 112 31 111 38	2000	62 9 55 2 55 2 57 5	_	1 4 9	81 0	21 24 24	44 0 3× 0	95 30	94.2 (1) 1			41	14	25 22 17 15		5 5	
Sion Wastina Wetaskiwin	53 52	54	114 15	2480	56.8	- 4 5	1	85 0 85 0	24	30 0 59 0	15 10	25.5			0.16		23			
The Red Deer River	0.	0.	110 20	2400	JU A	- 1	1.1		-11											
Alix . Ciemens Delin	52 51 51 52 52 52	3 N 411 45 14 55	112 25 114 8 114 23 113 29 113 44 113 49	3500 2506 2753	58 9 61 5 58 9 55 1 58 5 57 6 58 9		9 1 12 6 9 6 1	87 0 90 2 82 0 84 0 84 8 87 1 83 5	26 20 9 21 24 24 24 21 31	38 t 37 5 40 0 31 0 38 0 31 5 35 5	17 18 -30 29 15-16 16 23 25 27	21.0	1 19 1 79 6 95 43 1 75		35 44 0 29 1 26 1 5 7 5 7 5	\$ 100 100 6 111 5	2.5 2.1 2.5 2.0 2.6		1 3  2 4 3	
The Bow River																				
Brooks Calenty Cardston. Cleichen. Higb River Lawrance (Parkland) Lethbridge Lethbridge (Exp Farm ) Macleod Medicina Hat Okotoks Playla Creek (Maycroft)	50 51 49 50 50 49 49 49	12 0 59 0 35 0 16 0 42 0 43	113 18 112 54 113 53 113 26 112 51 112 51 113 24	2952 3394	63 9 61 3 59 5 58 2 61 9 61 4 62 2 68 7 58 5	+ 0 3 - 3 3 2 5 + 0.6	11 11 7	87 0 87 0 83 0 86 0 85 0 89 2 90 0 98 0 85 9	21 25 19	39 0 38 0 39 0 35 0 39 0 38 0 38 0 41 0 43 0 31 5	15 3 · 21 15 17 17 17	55 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1 15 1 17 1 17 1 17 1 17 1 17 1 17 1 17	) (3) () 3)	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	26	25 25 22 27 27		*****	
Playla Creek (Mayeroft) Strathmore Sundial	50		112 34		62 2		3	85 ()	0.20	35 0	14	25.9	1			3	- `			
Rocky Mountains																				
Banff Brazeau Forest (Coal Spur Athabasca River	51	1 1ii 2 40		4542 4225	56 3 53 <b>4</b>	- 0 (	15	86 F	16	22 n	16	40	2 07			5				
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Peace River Beaver Lodge Dunvegan Fort Vermilion	5.5 5.5 5.5	5 56	119 24 118 35 116 3	1305																
Fort Vermillion (2) . Grand Prairie Peace River Crossing Spirit River	6.5 6.5		117 15	2400	54 7 59 7	Ĩ	17	53 0 83 0	19 18 23	23 u	1.7	25 24	1 63 10 08							

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JULY, 1913.

\*Stations not furnished with Registering Thermometers.

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STATION.	Latitude N.		Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations.	Highest	Date.	Lowest.	Date.	Mean daily range	Amount.	Difference from average.	Heaviest fall in month.	s with .01 or	of.	ō	- 1	No of fores
SASKATCHEWAN—																				
Qu'Appelle River	50 9		109.33	1960												1				
Broadview Brownhell (Greniell P. O.) Brownlee Buchanan Crescent Lake Estevan Fort Qu'Appelle Hubbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Drumague! Hupbard Hup	50 2 50 4 49 1 51 50 52 1 50 52 50 50 50 50 50 50 50 50 50 50 50 50 50	3 5 .9 2 .5	$\begin{array}{c} 102 \ 33 \\ 106 \ 0 \\ 102 \ 53 \\ 106 \ 0 \\ 103 \ 4 \\ 106 \ 0 \\ 103 \ 4 \\ 1005 \ 9 \\ 105 \ 25 \\ 103 \ 4 \\ 1005 \ 9 \\ 105 \ 25 \\ 105 \ 35 \\ 105 \ 35 \\ 105 \ 35 \\ 105 \ 35 \\ 105 \ 35 \\ 105 \ 35 \\ 105 \ 36 \\ 105 \ 37 \\ 105 \ 0 \\ 105 \ 37 \\ 105 \ 0 \\ 105 \ 37 \\ 105 \ 0 \\ 105 \ 37 \\ 105 \ 0 \\ 105 \ 37 \\ 107 \ 37 \\ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 107 \ 37 \\ 37 \\ 107 $	1957 1957 1958 1858 1858 1924 2064 1759 1884 1870 2115 1606 1885 2202	61 7 59 4 63 8 61 7 56 69 61 1 63 6 61 5 63 6 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 59 6 60 9 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 3 61 1 61 1 61 3 61 1 61 3 61 3 61 4 61 5 61 6 61 6 61 6 61 6 61 6 61 6 61 7 61 8 61 9	- 0 5 0 9 0 5 0 5	21 19 10 10 22 4 23 22 12 8 23 24 12 8 24 13 14 13 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	90 0 0 96.6 80 9 96.6 80 9 88 1 89 0 0 88 1 1 84 0 90 5 84 0 90 5 85 0 0 0 85 0 0 85 0 90 1 5 89 0 0 91 5 89 0 0 91 5	28 8 29 21-26 24-25 19-29 25 20-25 25 25 25 25 25 25 25 25 25	37 0 36 8 41 0 36 8 30 0 50 0 50 0 40 0 41 0 41 0 41 0 41 0 33 0 37 0 37 0 31 0 37 0 31 0	27 26 27 1 13 26 26	20 9 226 7 27 0 28 4 25 22 1 22 1 22 1 22 1 29 3 3 24 4 9 9 21 1 2 2 1 2 2 6 6 6 3 29 9 25 6 6 6 3 25 7 7 25 5 5 30 8 29 8 29 8	2 26 0 90 3 27 3 47 3 47 3 85 3 85 5 10 2 93 2 55 5 63 2 55 5 63 2 55 5 63 2 55 5 63 2 11 2 2 2 11 2 2 2 11 2 2 2 5 2 2 2 11 2 2 11 2 3 11 2 3 11 2 3 11 2 4 12 2 5 12 3 5	-0.68 -1.67 -1.05	0.56 0.50 0.50 0.50 0.50 1.30 1.48 2.35 2.30 1.11 1.51 1.57 0.83 0.68 0.82 0.73 0.68 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23	8 13 6 6 9 9 7 8 9 9 13 8 6 9 7 6 9 7 7 8 9	 18 25 19  24 23 20  24 20 20 22 23 19  24 26  21 22 23 20 23 23 20 23 23 20 23 23 23 26 27 28 28 28 28 28 28 28 28 28 28		8 3	1
N. Saskatchewan River Battleford Lloydminster Luseland Oliver Onion Lake Prince (Meota) St Wallore Scott (Ex Furm). Wasea.	53 52 53 51	41 18 5 5 0 59	108 20 110 0 109 34 109 59 108 20 109 30 109 29	1620  1700	62 6 	- 1 f	23 1 1 3 6	88 0 88 0 83 0 87 4 86 0	20 20 20 20 20 20 20	45 0	1-30 27  27 27 27	22 9  25 8  30 6 23.3	3 56 3 64 3 62 2 98 2 67	+1 45	0 97 1 20 0 45 0 85 1 04	7  13 10 5			5	
The Saskatchewan Forks																				
Chagoness (Star City) Duck Lake Melfort Prince Albert Rosthern Saskatoon	52 52	32 51 47 10 40 15	104 13 106 20 104 30 106 0 106 20 106 30	1432 1657 1571	69 4  59 4 61 7	-18	6 3 14	85 5 84 1 87 0	21-29	20 0 39 5 41 0	5 27 13	21 9 21 5 22 4	3.98 3.80 2.14		0 95 1 26 0 78	15 9 6	16 22 25	i	1 8	
Lower Saskatchewan River																				
Cumberland House Lost River.	. 53 . 53	56 17	102 16 104 21		å9 4	_	2	79 0	29	40 0	27	20.5	5 36		1 18	14	17		4	
Manitoba—																				
Qu'Appelle and Assini- hoine Rivers Anne (St. Albans) Boussean Boussean Carberty Carman Cypress River Hillview Minnedosa Ninotte Ninga Pierson Pipestone Portage la Prairie Portage la Prairie Course	49 50 49 49 49 49 49 49 49 49 49 49 50 	42 25 51 52 31 33 55 14 14 11 34 57 56 59	98 17 101 20		64 4 62 1 61 8 60 8 62 8 61 1 64 2 64 4 60 8 63 3 61 5		1 47 27 30 30 2 3 8	95 3 89 0 90 0 93 0 94 0 97 0 90 0 5 88 5 9 83 0	29 29 29 29 29 30 30 30 30 29	40 5 41 0 42 0 44 0 45 0 35 0 47 0 40 0		21.9 32.6 21.5 21.2 17.6	2 26 1 70 1 52 3 87 1 93 1 44 2 19 2 54 4 10 1 59 1 36	-0 66 -1 2 +1 2 +1 2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	0 69 0 45 0 96	13 10 17 17 7 7 7 7 7 7 7 7 7 7 7 7 7	21 14 24 24 24 24 19	1	5 5	
The Red River Almasippi Morden Oak Bank Stony Mountain Winnipeg	19 19 49 50 49	14 11 57 40 53	97 14	800	62 8 62 8 61 9 63 0 64 4	- 2		91 ( 8 84 5	30 5 29 7 26-31	38 0 44 0 41 0 40 0 46 3	24-28 $24$ $2-28$ $13$	26 4 22 6 22 2 29 6 21 8	2.50 1.01 1.48 2.80 2.09	-14	0:46 9:0:75 6:1:50	1 9 2 8 3 3	22 23 28		7 5 2 	

\*Stations out furnished with Registering Thermometers

								Темге	BATURE				Pas	181TAT	10N.	ě				
STATION		Latifiede	Longaron	Devation above sea level, in feet	Mean.	Difference from average	Yr's of servations	If wheet	Pate	Lowers	Date	Menn dady range	Arrent	Difference from	Beavest fall in	Days with .01 or more	No of fair days	No of autoras	No of thunderstorms	No of logs
ManitoBa—Continued																_	_	-		
Dauphin Lake and River Berens River Dauphin Moose Horn Bay (Artkens- v.lle)	51 51	15 8 15	97-23 164-24 53-11	710- 957	63.4		3 4	87 0 81 1	20	40.1	_2) _1)	217	4.1		1 40	5	23	_		
Lake Winnipeyosis Le Pas	52	9	I 1 :5	1112	63 0	_	1	83.0	23 00	41 0	4		. 12	_	0.60	12	19		ō	
ONTARIO— he Lake Superior Districts Rainy River Fort Frances Kenora Shoul Lake	49	4.	¥ 32	1102	63 7		1	81.5	30	47 -	21	15.1	2.58		1 04		22		6	
Thunder Bay Kakabeka Falls Port Arthur Schreiber	48 48 48	20 27 50	8 / 26 8 / 12 8 / 13	912 644 533	59 2 60 9 57 6		33 14	\$3 (1 \$2 (1 79 2	17	36 0 42 0 39 5	10 6 10	26 2 21 6 25	5 55 1 2 1 2 68	+2 43	2 21 3 40 0 57	12 14	1.2 1.3 1.7		5 9 7	1
Algoma Bruce Mines Copper Cliff Porcupine Providence Bay. Timmins (Sandy Falls) White River	46 46 45 48	15 30 40 35	83 55 80 53 83 14 83 16	505 - 1252 -	63 H 66 O 61.9 61 3	- 2 6 - - - 3 0	15 6 2 3	85 0 85 0 85 0 82 0 79 5	3-27 31 28 28	42 ± 43 ± 646 ± 5	11 25 10 11 25 17-21	22 4 2 1 2 23 4 19 4 29 5	4 44 2 34 3 31 2 65 2 40	+0 05    0 67	1 58 1 41 0 62 0 76 0 36	11 10 14 5	20 21 17 23 18		5	
Nipissing Cochrane Haileybury Iroquois Falls Montreal River	49 47	2 29 8	51 0 7 1 79 79 29	949 687	61 1 65 2 61 3 60 8	- <u>1</u> 0	22 1 3	87 H 88 2 84 4 80 0	27-25 1	37 0 43 0 33.3 24 0	8-25 25 11 11	21 4 21 1 26 3 35 0	2 85 5 97 4 53 3 71	+0 67	0 70 0 57 0 69 0 85	16 12 16 11	15 19 15 20		5	
Jpper Ottawa River Rutherglee (Lake Talon). Stonecliff (Rockliffe)	46 46	15	74 48 78 6	557	65 5 65 2	= 0.1 = 2.8	19 26	93 0 92 0	30 4-5	3× 0 40 0	9 12	26 0 26 3	1 73 2 31	$-1.58 \\ -1.60$	0 56 0 76	11	20 17		10	
Jpper St. Lawrence and Lower Ottawa Rivers Almonte. Bloomfield. Hiller Kingston. Montague Morrisburg. North Gower Ottawa Beafrew.	45 43 14 44 45 45	12 59 13 50 8 16 26	76 13 77 21 76 29 75 57 43 75 42 76 39	3 :0 260 285 - 285 - 294 416	68 0 69 4 68 8 68 3 67.0 69.1 68 4	-03 +10 -05 +02	2 13 39 4 1 30 24	95 2 91 5 91 5 96 0 92 7 93.0 97 1	31 1 1 4 1-4 4	41 2 47 6 48 4 45 0 40 0 46.0 40 0	12 11 11 12 8-9 12 12	24 1 22 8 15 1 26 6 25 7 20 3	2 57 1 50 2 16 1 72 2 89 2 63 0 69	-2 25 -0 70 -2 07 -2 07 -4 45		6 2 13 6 11 7	25 29 18 25 20 24 21		4 9 3 2 9 2	
Georgian Bay Counties Barrie Bentriee Big Chute (Midland P O ) Colidwater Collingwood Graveshuret Huntsville Midland Midland Mondold Mondold Mondold Orblia	44 45 44 44 44 44 44	31 54 19 44	79 41 70 20 79 40 80 2 79 20 79 5 79 53	839 800 600 730 775 597	64 4 67 2 68 9 65 7 65 6 66 6 65 9 69 0	$\begin{array}{c} + 03 \\ + 19 \\ - 28 \\ - \\ - \\ - \\ + 13 \end{array}$	38 1 24 41 7 6 2 13 17	\$6.0 94.0 95.0 99.0 89.0 89.0 92.0 93.0	27-31 28 27 4 31 	38 0 46 0 38 0 40 0 40 0 41 0 46 0 43 0	11 11 26 11 11 11 12 11 26	21 8 18 9 26 9 25 8 24 5 25 3 15 8 24 3	1 93 1 59 1 09 2 68 1 63 0 79 0 74	- 0 89 -1 690 322 70	0.60	10 6 3 9 4 5 5 6	21 25 28 22 27 26 26 25		3 1	
Owen Sound	14 15 45 15	3.4	50 55 50 0 78 57 79 25	597 635 1638	67 1 63 6	-05	38 6	97 0 88 0	31 31	44 0 38 0	11 10	22 7 23 7	1 12 1 92	<u>-1</u> 71	0 54 0 48	6 9	25 22		· 2	
Lake Huron Counties Birnam. Clinton Goderich. Lucknow. *North Brace *Point Clark Southampton.	43 43 43 43 44 44	30 45 56 23 5	51 55 51 37 81 41 51 30 51 25 81 44 81 21	6/0 - 908 5/15 656	69 1 67 3 65 3 65 0	+ 0 6 + 0 4 - 3 0 - 2 8	27	90 0 93 0 91 5 95 4 90 2	29 1 1 31 31	41 3 38 0 41 0 35 9	11 11 11 11	18 7 23 2 18 8 26 8	3 78 1 89 1 05 2 00 2 40	10 48 -1 85 -0 84 - 0 53 +0 16	0.40 0.40 0.94	7 9 6	25		1 1	
Lakes St. Clair & Erie, Magara Peninsula Chatham. Cottam Duttoe. Grimsby Peles Island Port Burwell Port Burwell Port Steepe Port Steepe St. Cathorines Rtoney Creek Wallaceburg Walland Wildoor.	42 42 43 41 42 42 43 43 43 42 42 43 43 42 42 43 43 44 42 43 44 44 44 44 44 44 44 44 44 44 44 44	13 5 39 27 40 13 35 59	82 12 82 45 70 36 62 35 80 55 80 13 81 13 79 17 79 45 82 24 79 17 83 4	505 808 595 592 635 542 347 202 577 625	73 3 70 77 69 4 71 4 74 77 67 1 69 0 50 70 7 71 0 69 6	+ 2 1 - 1 0 + 0 5 - 1 : + 0 1 + 1 > - 0 6 - 0 5	10 38 39 2 1 30	96 0 96 0 91 0 94 0 99 5 85 0 91 5 80 0 91 0	4 1 1-27 25 1-30 1 4 27 28 2-3	45 0 42 0 43 5 50 0 61 0 42 5 49 0 51 5 48 0 44 0	11 24 11 15 14 11 21 14 11 11 11 11 11 11	25 1 26 6 22 4 23 3 5 2 18 1 25 8 22 9 6 21 7	2 42 2 93 3 80 1 98 2 14 3 17 1 84 1 81 1 92	1 24	1 10 1 50 0 80 1 11 1 0 81 1 0 86 1 18 3 0 86	6 4 7 5 11 12 5 5	27 24 26 24 20 19		3 5	

## TEMPFRATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JULY, 1913.

. Stations not furnished with Registering Thermometers

							T.	ERATUR				-							
			ga5				1 E 21 F	ERATUR	16			TREC	HITAT	108	more.			TELS.	
STATION	Latitude N.	Longitude W.	Elevation above level in feet.	Меап.	Difference from average.	Yr's Observations	Highest.	Pate.	Lowet.	Date	Mean daily range.	Amount	Difference from Average.	Heavest fall in month.	Days with 01 or	No. of fair days.	No. of auroras.	No. of thunderstorms.	No. of fogs
OSANGO - Continued-							-								_	_	_	_	-
Vicst-Central Counties																			
Alton, Riantford Ellors, Gue ph Lastower, Davidon So Burro et afford w et Stock	9 / 13 51 43 10 43 41 43 33 12 42 59 43 12 43 23 43 8	80 5 80 21 80 24 80 16 81 13 80 25 81 0 80 47	1250 750 1274 0350 808 849 1191 980	69 8 67 3 67 9 66 5 69 2 69 6	$\begin{array}{c} -0.5 \\ +0.8 \\ -0.1 \\ -0.6 \\ -0.2 \\ -0.4 \end{array}$	25 16 27 11 29 24	95.0 96.0 91.0 90.0 94.0 96.0	31 31 3 4 31 4 31 	43 0 40 0 43 0 40 0 40 0 43 0 42 5	10 11 11 10 6 25	28 2 28 8 23 6 23 7 26 3 25 8	2 73 1 31 3 26 1 28 3 60 3 17	+0.35 -1 55 +0 69 -1 66 +1 16 +0 71	0 84 0 56 1 33 0 49 1 19 1 40 	7 6 7 4 9 8	24 25 24 27 22 23		3	
Lake Ontario Counties																			
Aguicont Vanora Hamilton Oslawa - Foronto Perconto Perconto Petradra, Valenda - Wexford - Wexford - Valenda - Vexend	13 47 13 57 43 16 43 53 43 40 44 5 43 44	78 52 79 24	590 886 303 331 350 886 555	69 2 66 6 70 2 65 7 67 1 66 3	- 0 2 + 1 1 -	17 6 72 9 9	94 0 90.7 94.8 90 0 91 0 88 0	1 1 1 4	45 0 41.5  49 8 45.0 43 0 45 0	11 10 	24 9 25 5  22 6 23 5 23 6 20 6	3 11 2 89  2 67 	+0 88 +0 32 -0.26	1 24 1 45  1 05 - 1 14 1 35	5 4 7 6 6	26 27 24 25 25		4 4	
East-Central Counties															i			1	-
Baueraft Haliburton Kumount Lakoheld Land-ny Webe Norwood Peterboro Ursa,	45 1 45 4 44 45 44 25 44 26 44 36 44 17 44 51	78 15 78 15	1050 920 850 872 575	64 4 66 4 64 8 68 3 69 5 67 6 63 8	$\begin{array}{c} + & 0 & 0 \\ + & 0 & 8 \\ - & 0 & 7 \end{array}$ $\begin{array}{c} + & 1 & 1 \\ - & 1 & 2 \end{array}$	22 26 14 34 9 1 43	94 0 94 0 93 0 95 5 95 0 93 0 92 0	4 31 4 4 4 5 4	37 0 35 0 35 0 43 3 41 0 38 5 43 0	10 26 10 26 26 26 30 12	29 0 30 2 28 6 26 4 25 8 26 7 21 9	1 10 1 27 1.57 3 46 1 34 2 16 1 51	-2 10 -1 90 -2 32 +0 96 -1 19	0.30 0.95 1.39 0.47 0.66	1 9 8 11 8 7 7	30 22 23 20 23 24 24		7 8 3 3	
Qc rarc-																			
Middle St. Lawrence																			
Brome Cup Brome Cup Brome Cup Brome Cup Brome DT wide Muttail Quidne Str Str Anno de Bellevue Shawengan Falls Sherbrooke .	45 10 45 46 45 55 45 36 46 48 45 27 46 34 45 82	71 18 71 21 73 35 71 13 73 59 72 43	678 132 896 187 296	65 6 65 2 68 0 69 5 66 2 70 7	+ 0 1 - 0 5 - 0 1 - 0 8	33 3 1 39 39 7	89 0 88 0 94 0 93 2 90 0 95 3 91 1	1-4 2 2 1 1 1	43 0 45 2 28 0 51 0 47 5 49 3	12 9 8  11 11 8	19 5 19 7 24 4 17 2 20 0 24 1 20 9	3 98 5 36 1 57 2 42 6 05 0.74 3 28	-0 25 -1 54 +1 62 -0 42	1 22 0 60 0.53 1 42 0.36	12 15 9 12 18 3	19 16 22 19 13 28		5 6 2 6 8 0	1
Lower St. Lawrence & Gulf									1										
*Antrosti E. Pt Antrosti, S.W. Pt Antrosti, W. Pt Biequet Cupe Chatre *Capa Mugdalen Futher Point Ste Anne de la Pocatiere	49 6 49 52 48 25 49 6 49 16 48 31 47 22	64 32 68 53 66 45 65 20	30 30 93 20 65	52 9 54 4 56 2 62 8 57 9 57 7 58 1 62 4	$\begin{array}{c} -20 \\ -21 \\ -21 \\ +88 \\ -27 \\ -24 \\ +02 \\ -\end{array}$	31 32 31 31 32 31 36 36	$\begin{array}{c} 72 \ 0 \\ 76 \ 5 \\ 74 \ 0 \\ 82 \ 0 \\ 70 \ 0 \\ 71 \ 0 \\ 75 \ 0 \\ 82 \ 2 \\ \end{array}$	5 19 23 23 4-24 10 28 4	47 0 37.0 47 0 51 0 50 0 48 0 43 0 44 0	1-14 1 1 1 1 20 1 16 30	23 4 - - - 15 6 21 3	3 74 2 22 2 13 2 25 2 43 3 03 4 35 3 64	-1 03 -1 22 -0 75 -0 45 +0 06 +1 51	0.57 0.60	8 14 14 7 5 15 15	23 17 17 24 26 16 16 18		2  1	16 12 5 7 12 8
Lake St. John Clacoutimi Clacoutimi (2) Lake Edward fa Tuppe Mistresini Roberval	48 25 47 39 47 07 48 54 48 31	72 15 72 48 72 15	1333 520 360 352	63 5 64 0 60 4 61 1	- 0 9 	28 3 4	90 2 83 0 84 8 88 0	4-5 1 	43 8 42 0 35 2 41 0	31 8 	19 7 17 5 23 4	6 28 4 99 5 94	= = ==:	1 36 1 01 0 98	22 11 21	9 20 10	i	7 5	4
The Northwestern Districts Abirthi Amos Minonan Crossing Teniskaming Weymontichingue (Dam A) White Shore Lake	48 33 47 54 48 12	73 50		62 0 58 8 61.6 67 3	- 2 1 - - -	18 1 2 1	83 0 84 2 88.0 98 0	5 1 4 5	40 0 34 2 32 0 37 0 28 0	6 11 12 11 8-12	18 0 25 4 27 6 32 6	3 30 4 30 2 88 3 26	=======================================	0.65 0.90 0.86 0.57	14 15 9 18	17 16 22 13	i	1 3	
The North Shore Clarke City	50 10	66 25																	
New Branswick— Chatham Dalhouse Fredericton Grand Falls Moneton Point Lapreaux St. John	47 3 48 4 15 57  16 0 45 4 45 17	66 22 66 36 64 45 66 28 66 4	21 39 164 50 39 70	65 9 62 6 65 7 57 1 61 0	- 0 8 + 0 1 - 0 3  + 0 6 - 0 3	39 33 39 35 40	92 0 82 0 90 6	5-23 4 	50 0 43 0 47 0 50 0 52 3	1-31 1 17-31	20 5 17 2 20 9	3 49 3 23 5 11 4 60 3 55	-0 23 +1 49 +0 64 +0 65	0.69 0.80 1.79  1.31 0.67	21 9 14 6 13	10 22 17  25 18		6	1 :5 9
St Stephen Sugget Williamaburg	45 11 45 38	67 16 65 38	35 96	65 4 62 8	+ 0.7	16 1	88 0 89 0	 5 5	43 0 40 0	16 30	20 6 21 7	4 76 3 89	+1 98	1 60 0 85	8 12	23 19		3	4

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, JULY, 1913

"Stations not furnished with Registering Thermometers

<del></del>	-						-														
					nas				Тимг	CRATU	i			Pin	IPITAT	ION_	ore .			671	
STATION		Latitude			Elevation above so level, in fect	Mern	Рыйетевее бст. ауставе	Yes Observations	Hilbrat	Dete	Lowest	Patr	Meun dady range	America	Difference from	Heavest fall in morth	Days with .01 or more	No of fur days	jc.	No of thunderstorms	to, of tags
Nova Slotia	-		-	-					_						-	Ξ.	=		-	_	-
Advocate		,																			
Antigonish	45 45	39	61	50	59 40	62 5 64 5 ( 61 6	9	39 2	87 6 89 9 86 0	4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	9	21 6 22 1 22 0	4.8		I 21 I 56	12 11	19 20		2 3	1
Leverpool Merigonish						62.6	_	i	9.1.11	6	35 0	12	26.1	5	_	2.50	7	24		5	
New Germany. Parrsboro'. Port Hastings . *Sable Island, E. Pt	45			jo.	4.1	65-3		2	94.0	2	41 0	1	27 0	8 (0		3.24	9	22		2	
	46	55 57 10 22	50 60 60 63	10	25 25 35 77	62.9	$\begin{array}{c} -2 & 0 \\ -0 & 7 \\ +0 & 0 \end{array}$	10	81.5	29 4 2 2	47 0 35 5 40 3 41 5	1-18 1 17	9 8 19 3 22 8 21 9	2 15 2 70 2 88 2 12	47	1 13 0 88 9 82 0 67		24 22 17		3 6	15
*Whitehead	14 45		61 64 64 61	8 6 20 2	20 50 65	15 7 65 1		11	87 0 85 5	5 4 25	43 0 46 2 46 1	17	19 s 19 1 14 2	4 13 3 16		1.19	13 12 14 7	19 17 21		2 1 2	1
P. E. ISLAND— Charlottetown Charlottetown (Exp. Farm) Hamilton Summerside	16 46 46	14	63 63 63	7	3% 75	64 1	$\frac{-12}{-11}$ $\frac{11}{+15}$	16		29 4 4 4	47 0 44 0 47 0 45 0	1 17 1 17 1-11 16	16 1 18 0 16 2 11 0	4 18 4 61 5 48 5 81	+ 1 35 - + 2 48	0 1 8 1 11 1 70 1 67	14 14 9	17 17 22 20		3	
Vewfoundland— *Amour Point  Burin *Cape Norman  Fogo	51 47 51 19	25 0 35 43	56 55 56 54	10 52	27																
*Point Riche Port aux Basques	50 47	42 35	37 39	25 10	35 27	51 2 53 3	- 0 S	29 5	$\begin{array}{ccc} 68 & 0 \\ 66 & 5 \end{array}$	$\frac{11}{4-17}$	$\frac{43.0}{41.5}$	1-17	9-6	4 n · 1 90	10.50	2 11'1 0 63		24 19		2	19
St. George's St. John's ABRADOR—	17	34	52	42	125	56 4	- 2 5	11	\$1.0	5	40 0	1 19	15-7	5 52	+1 70	1 30	16	15		1	7
*North West River	32	17	64	46	151	76 2	- 2 2	22	85 6	26	65 0	1	12.5	3 22	-1 54	0.79		22		4	

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, ETC., DURING JULY, 1913.

		- R.	AINFAI	do.			SNOW	FALL.		
STATIONS.	Amount in inches.			Heaviest Fall in Month.	Date.	Amount in inches.	No of Days	Heaviest Fall in Month	Date	REMARKS
RITISH COLUMBIA—										
Alkulı Lake	1 8.)	9	22	0 45	12 13					
Alkalı Lake Annıs (Canoe Point) Armstrong	2.03 0.84	4	19	0 00	. 9			1		
	1 66	5	26	0 65	ú					
Coquitlam Cariboo Rond No HI Denman's Island	1.58 3.25	. 5	26 21	0 78 0 79	6 13	1			1 ,	
l'ergus in	0 97 2 66	10 5	26 23	0.49	6					
Hydraulie . Hornby Island	1.39	8	95	0 75 0 69	6 23					
Hydraulie Hydraulie Hornby Island Inverniere Jordan River Jordan River Little Qualicum(Fr Cr V I	1 60 1 92	10 8	21 23	0 40 0 94	9 10					
Jordan River (Bear Creek) Little Qualicum(Fr Cr V I )	2 21 1 52 1 71	8 7 5 9	24 26 22	0 92 0 75	6					
Nasa Harbour.	5 99 0 37	15	16 27	0 55 1 10	30					
Rock Creek . Shawngan Lake	(+ 37		27	0 13			`			
Wyeliffe.										
I BFRTA-										
Bardo .	$\frac{2}{1} \frac{45}{95}$	8	23 25	0 57 0 43	24 16					
Bismerk Bruegerheim	4 11	···· ii	20	1 50	14					
Bittern Lake Brooks Beaver Mines	1 58	9	2.2 2.5	0.66	21					
	1.91	6 11	25 20	0 97 0 77 0 60	29					
Cowley Caldwell . Claresholm .	1.88	3			10					
Claresholm . Clarada Dorentes (Bashaw)	0 96 0 74	5 4	28 26	0 45 0 29 1 30	22					
Dorentee (Bashaw) Dunstable (Five Lakes)	2 65 7 13 1 50	16	27 15 29	1 53	15 3 15					
Dunstable (Five Lakes) Grassy Lake Jumping Pound	1 50	. 2	29	i 00	10					
Loch Sloy Lyndon Lineham La Pearl Lethbridge	3 53	7	24	0 65	29					
Lineham	3 53 2 51 2 34	3 4	28 27	1 94 1 31	12 13					
Letibridge . Macleud Mayeroft	2 70	1 4	24 27	0 34 1 10	28 10					
Mayeroft Mountain View Mannyille (Royeroft Ranch)	9.13	10 3 7	21 28 24	0 55 2 80	24 25					
Mannville (Roycroft Ranch) Nateby	0.52	7	21 27 26	2 80 1 50 0 17	13 23					
Nately Nanton	2 18	5		0 65	29					
Okotoks Pekisko Ponoka	2 58 3 26	9 7	22 24	0 91	29 14					
Seven Persons	0.70	2	29	1 80 0 58	22					
Tilley Writing-on-Stone (Coutts), Waterton Mills	2.72	8	23	1 06	26					
Waterton Milia	- 12			1 00						
SASKATCHEWAN-										
Battle Creek Gull Lake	2 62 1 45	6	25 25	0 94	22					
Gull Lake Gull Lake (Fks Swift Cur ) The Mendows (Battle Ck ) Willow Creek (Maple Cr )	2.65 2.95	5	26 26	0.98	11 21	- 11.1				`
Willow Creek (Maple Cr.) Wapashoe		1								
MARITOBA-										
Cartwright	1.57	11	20	0.77	10					
Deloraine Norquay (Swan Lake) Rapid City	1 21 2 46	8	23 21	0.70	11 10					
Rose Bank .	2 40		-1	0.96						
Ontario -										
Brantford(Bow Park Farm	2 85	10	21 24	0.76	4				;	
Deer Park Dutton .	2 85 2 27 3 80	7	27	1 01 1 50	5					
Emsdale Fort Frances	1 41	7	22	0 49	13					
Georgetown Grantham Grand Valley	3.62 1.09	7 6 5	24 25	2 07 0 34 0 72	4 5					
Grand Valley Hillier MacCue	1 12		26		5					
MacCue Ningara Falls	1 91 1 25	6	25 22 20	0 75 0 28 1 37	9 2 12					
Ningarn Fulls Nipigon Princeton Point Clark	3 79 2 22	11 5	26	0.81	6					
Point Clark . Renfrew	1 60	4	27	0 60	4					
Renfrew Sydenham Strathroy	3 80 3 27 2 88	6	25 25	0 90 1 14	20					
Strathroy Watford Westport	2 88	6 7 8	24 23	0 86	4 16 27					
Westminster Wooler	3 64 2 44	8	25	0.91	27 6					
Wesley Wattenwyl.										
Wiarton	0.98	4	27	0 41	4	1 7 7.				

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING JULY, 1913.

		R.	AINFAL	L			SNOW	FALL		
STATIONS	Amount in inches	No. of Days .01 or oxer	No. of Fair Days	Heaviest Fall in Month	Date	Amount in inches	No. of Days	Heaviest Lall in Month	Date	REMARKS
Qпевес—										
Bark Lake (Riviere Desert) Kipawa Dam	3.15 2.75	11	29 22	0 60 0 90	20 12					
Lucerno Perkina Milla Quinze Dam Timiskaming	1 14 3 93	в 4	25 27	0 35 1,60	13					
New Brunswick→										
Point Escumioae	1 94	7	24	0 62	25					
Nova Scotia-										
Big Mushamush Lake (Ma- hone) Kentville. Milton Mushamush River (Mahone)	5 61 3.93	11 5	20 26	1 25 1 87	21 6					
Nappaa	4 98	11	20	1 50	6					
White Rock	3 56	11	20	1 25	19	1				
	i		[		1					

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF JULY, 1913.

a Barometer not reduced to sea level

						PB	ESST	RE.		dity.	nd	tely			Dn	RECTIO	N OF	Win	b FR	υ <i>η</i>		_	Vi	WIND 1 OCITY	OF
STATION	Toppinds N		Longitude W.	Elevation above sea level, in feet.	Mean reduced.		Highest.	Lowest	Range.	Mean relative hunidity	Mean amount of cloud	No. of days completely clouded.	z	N.E	E.	S.E.	x.	S.W.	W.	N.W.		Total number of observations	Mean miles per hour	Maximum velocity.	Date and direc- tion from.
British Columbia— Athin Barkerville Kamloops	59 53 59 54 54 50 50 49 48	35 1 2 1 42 1 10 1	21 35  20 29  23 37  30 18  29 5  20 29  23 5	125 170 680	30 0 29 9 29 9 39 0	1 30 4 31 30 30 30	37 27 23 35	29 6 29 5 29 7 29 6	1 0 72 9 0 68 7 0 70 0 0 53 0 0 65 0 0 72 2 0 55 (2 0 55	0.1		4 6 10 22 3 3	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	0 0 13 0 13 0 0	0 10 1 4 1	14 0 4 10 6	32 1 7 0 15 3 2 18	2 16 2 2 1 1  2 10 12	0 5 20 3 0 13 13	5 1 5 12 0 2 5 2	8 39 13 21 36 37 14 14	62 62 62 62 62 62 62 62	8 1	13 40 35	(3,2),27 29 W 19 N W
Yuxon— Dawson	64	4 :	139-20	1200			i																		
Alberta— Banff Calgary Edmonton Madieine Hut	51 51 53 50	33	115 34 114 2 113 30 110 37	-2158	29 9 29 9 29 8 29 9	6 30 0 30 9 30 0 30	0.39 0.23 0.25 0.50	29.1 29.5 24.5 23.4	51 0 75 51 0 75 57 0 68 15 1 05	61 	, ;	3 0		) : 2 4 4 : 3 (	1	1 4	1 3 5 8	25 2 13 20	10 4 10 14	25	19 11 5 5	62 62 62 63	4 3	19	10 N W
SASEATCHEWAN— Battleford Moose Jaw Prince Albert Qu'Appelle Swift Current	52 50 53 50 50	21 10 30	108 20 105 35 106 0 103 47 107 45	1432 2115	29 8 29 8 29 8 29 9	11 30	21	2.1.1	00 0 76 25 0 97 31 0 93 15 0 82	. 71	, .	3 4 3 1 4 5 4 3			: 4	9 3 2 1	0 0 14 19	8 15 8 8	8 17 16 12	12 13 13 19	25 27 2	62 93 62 63	8 8 5 6 9 3	18 32	7.148W 12 N W
Manitoba— a Awene (St. Albaa's) . Manedosa Le Pas	49 50 53 49	42 : 15 : 49 : 50 :	99 50 101 15	1180 1699 1699 760	28 7 29 9 29 8 29 9	3 29 2 30 3 30 1 30	9,05 0-31 9-21 9-30	28 1 29 3 23 3 23 3	16 9 89 80 1.01 36 0 82 26 1 04	6; 80 7:	i, i			) 1 3. 1	7 8 1		2 7 8	2 11 11	17 6	20 4 24	20 1 5	62 62 93	10 6 11 0	39	sw
ONTARIO— Cochrane Guelph Huilechury Kingston London Lundsay Ottawa und Parry Scular Port Stanley Southampton Stonechiff Toronto White River Woodstock	49 43 47 44 45 45 45 48 44 46 43 43 43	13 59 20 26 19 27 40 30 8 9	80 16 79 39 76 29 81 13 78 45 75 42 80 0 89 12 81 13 81 21 78 6	5 050 687 285 5 808 872 294 635 641 592 656 557 4 350 3 1252	29 9 23 9 23 9 29 0 29 8 20 9 29 9 29 9 29 9 29 9 29 9	0 30 4 23 5 30 5 30 5 30 5 30 5 30 1 30	1 25 1 20 1 24 1 29 1 18 1 24 1 26 1 26 1 27	27222222222	11 0 83 10 4 85 10 4 85 10 6 85 17 0 7 17 0 7 13 0 7 14 0 7 15 0 7 16 0 7 17 0 7 17 0 7 18	88 88 88 73 73 74 75 75	3	5 5 5		1 7	5 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	37 37 3 1 1 5 14 4	10 0 8 2 0 6 3 8 0 0 7 1 1 2	5 27 11 18 19 27 17 15 7 6 15 0 8	18 2 4 10 3 9 26 18 12 14 6 18 13 13	18 17 0 4 23 6 10 2	0 0 12 3 0 19 1 6 4 18 12 36 2	62 87 62 62 93 62 62 62 62 62 62 62 62 93	8 9 9 4 8 5 6.5 10 0 9 1 4 4 4 10 4 8 7	26 20 33 36 19 36	7.S.W., 12.S.E. 9, W. 6 N.W. 7.W. 13.W.
QUEBEC— Anticosti S W Pt					29 8	2 30	). <b>1</b> 9	23 -	14 0 73	9:	3	6 8		9 3	3 2		7	0	3	16	9	93	11 7	34	198E
Father Point Montreal Quebec Sherbrooke .	48 45 46 45	31 30 48 32	68 19 73 35 71 13 72 5	20 5 187 6 293 6 620	29 8 29 8 29 8 29 8	12 30 17 34 15 30 10 30	) 25 ) 20 ) 24 ) 20	29 - 29 - 29 - 29 -	11 0 8 16 0 7 38 0 80 15,0 7	5 7	8 5	7 13 5 4 7 12 5 1		1 5 : 0 13	2 7	3 3 6	0 13 3 10	41 31 34 12	22 23 46	10	62 0 1 0	93	10 1 13 2 10.1	32 30 28	1 3 SW
New Brunswick— Chatham Fredericton St. John .	47 45 45	3 57 17	66 36	164	29 8 29 8 29 9	7 30 39 30 30 30	0 25 0 24 0 23	21 - 29 -	48 0 73 49 0 73 50 0 73	8 7 8 8		7 12 6 10 6 5		1 2	1 9	3 12 24	1 14 27	17 20 21	20 22 5	3 9 2	1 ()	62 93 93	6 6 9 3	22 31	26 SW
Nova Scotta— Hablinx Sable Island (MStation) Sydney Truro Wolfville Yarmouth	14 43 46 45 43	10	60 6 60 1 64 20	35	129 9	10-31	0.20	29	55 0 6 77 0 6 53 0 7 28 0 9 53 0 6 58 0 6	_	5	6 7 15 7 12 6 10 6 13 5 7		7 14 6 :	6 6 1 8 3 2	18 3 5 0	8 20 6 6 13 15	13 23 8 8 15 24	17 11 38 21 12 8	19 6, 2	1 0 3 8 3 4	62 93 93 62 62 62	11 0 7 8 11.7	27 20 32	23W 108E 26NW
P. E. ISLAND Charlottetown .	46	14	63 10	38	29 9	90 30	0 26	29	50 0 7	5 8	1	6 1		2	9 1	4	9	19	9	4	5	62	6 6	26	10SE
NEWFOUNDLAND BUTIN. FORO. Port aux Basques St. George's St. John's BERMUDA Prospec'	47 48 47 48 47	43 35 27 34	59 10 58 3	7 30 0 27 1 21 2 125	29 9	3 3	0.38	29	55 0 6 60 0 7 98 0 3	s		8 17 7 10 5		5	0 33 6 8		8	21	2 2 5	3	 4 0				

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF JULY, 1913

			, ,	DIRE	ECTIC	ON O	B WI	ND F	ROM		
STATIO	N	ź	N.E.	ы́	S.	ò	SW	:=	N.W.	C.	letal num- ber of Obser-
LBERTA— Athabasca Landing		1	0	0	0	2	1	18	9	0	31
Didsbury Endiang.		0	1	5		2	()	3	16		29
Halkirk (Emsburg) Hillsdown		3	0	3 0	10 16	5 4	10	4	21 34	7	62 62
Loveland		0 5	4	3	9	2 3	8	7 33	1 <del>1</del> 1	15 20	62 62
Pakan (Victoria) Ranfurly (Waitefield)		4	5	3	5	15	$\frac{\dots}{3}$	33	14	11	93
SKATCHEWAN— Chaplin		1	0	2	1	3	I	18	5	0	31
Crescent Lake		2	2 1	4	1	11	10	117	7	11	62 31
Fort Qu'Appelle Grenfell (Brownhill)		0	3	6	12	5 6	8 19	22 3	0 16	(5	62 60
Indian Head Lurchmount (Glenbryan		4	0 10	4	2 2	15 2	18 10	20 19	25 16	5	93 62
Moosomin	anustery)	6	4	6				12		0	62
Onion Lake						1	3	5			
Waseca		1	3	2	2	1	4	11	12 7	0	31
Berens River											
Brandon		Ü	6 2	9	12 8	4	8 12	11 15	17 43	27 0	83 93
Moose Horn Bay (Aitker Morden		9	5	7	2	7	·	10	12	2	62
Oak Bank, Stony Mountain		12 14	3	3 0	2 6	10 12	5	15 15	9	0	62 58
TARIO —				1 -							
Agincourt			1	5	13	15	15	13	30	0	93
Beatrice Birnam		4	0	0	2	13	6	3 13	17	48 9	99 62
Clinton		1 19	1	1	5 4	13 29	12	5.4	24 0	0	62 62
Gravenhurst North Bruce		11	0	7	7	8	7	19	14	20	93
Orillia Owen Sound		1	0	1	2	8	7	11	1	0	31
Point Clark		1	3	5		3	6	s	3		31
Port Dover Stoney Creck		0	16	4	9	3	15	40	6	0	93
Uplands Wexford		2	0	2	2	0	4	2	8	11	31
EBEC-		10	0	0	3	26	4	34	15	1	93
Abitibi Anticosti, W. Pt Anticosti, Heath Point		5	9	8	5	36	9	IO 16	11	0 18	90
Anticosti, Heath Point Bicquet		9	8 13	9	2 0	9 5	21	12	()	42	93 93
Brome		9	0	2 8	2	3	15 4	59 53	0	3 21	93 93
Cape Magdalen		1	0	1	3	21	5	2	31	29	92
Cap Rouge Chicoutimi		5 0	10	0 9	10	()	8	6	10	40	31 93
Clarke City											
Manouan Crossing - White Shore Lake.											
BRUNSWICK -		()	0	14	1	()	()	13	0	2	30
Dalhousie			4		3	3	21	99	11		81
Pt. Lepreaux Sussex		1	0	2	()	()	12	5	1)	11	31
OVA SCOTIA -		2	0	9	()	to.	10	10	1	0	31
Kentville											
Port Hastings Sable Island, E. Pt							25	20		5	93
Truro		12	I	1	8	1.3	25	20	8	ה	93

## MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF JULY 1913.

									Hout	as Eni	ONI							
STATION.	4 a.m.	5 a m.	6 a m.	7 a.m.	8 a m.	9 a.m.	10 a.m.	11 a m.	Noon.	1 p.m.	2 p m	3 p m.	4 p.m.	Spm.	6 p.m.	7 p.m.	8 p.m.	9 p m.
Victoria			. 15	. 50	59	.65	67	.74	84	82	7.2	78	.79	71	,63	27		
Salmon Arm			42	64	70	.63	63	. 69	. 68	.68	71	.70	.68	.74	. 63	.58	.16	
Vanaimo		.01	.39	52	52	55	65	.66	.62	.64	66	. 65	.57	. 58	.55	.42	.03	
ancouver		.12	.42	49	53	53	57	. 64	$6\vec{o}$	.63	64	.71	73	72	70	57	05	
Agassiz			03	.23	.35	42	.51	.54	57	59	58	.60	. 60	56	44	11		
franquille			50	.64	. 68	69	77	.71	.77	76	78	. 74	76	77	. 66	.57	.10	
Summerland		.08	.76	.75	82	81	83	80	74	74	68	.72	. 61	. 67	-64	. 33		
Kamloops		.02	. 63	.72	77	50	82	77	.77	78	79	78	74	76	71	46		
Harper's Ranch		.28	.60	.56	65	t-7	.71	.66	72	71	67	63	.75	54	18			
dmonton		.03	.33	61	64	67	62	64	65	_64	71	64	61	. 62	57	43	.15	
ethbridge		.09	60	.76	75	73	81	84	80	78	82	.81	71	.50	. 73	.70	.37	
Lacombe		.10	.66	.87	,85	81	.77	77	82	84	58	.78	.75	.73	66	.48	.06	
Medicine Hat			.42	.69	73	.73	.71	77	78	76	78	76	.73	78	.76	57	.09	
Fort Dunvegan			13	42	.57	64	.t5	61	.61	64	59	.54	60	56	.46	27		
Fort Vermilion		11	.40	. 59	64	. 59	65	. 68	75	.76	76	.71	.69	.66	63	. 52	. 33	
Battleford			26	. 50	63	73	74	.74	77	.78	.75	.74	75	71	.74	3.3		
ndian Ilead			.23	58	.68	70	78	80	82	.78	77	. 72	75	. 69	. 58	33		
Moosejaw																		
Scott		09	49	_57	64	62	69	77	.77	72	65	.70	70	. 68	. 61	. 31	.04	١.
Rosthern		11	.51	. 60	65	64	67	67	72	71	72	. 69	66	. 65	57	. 53	. 21	١.
Brandon			,	14	55	60	70	74	69	74	73	.77	74	.71	.29			
Winnipeg		03	. 43	.58	63	75	83	. 81	79	50	71	79	.71	.74	.69	.41	.02	
Haileybury		.06	. 47	52	59	62	65	66	65	65	61	59	. 54	.52	.39	. 29	.05	
Woodstock			25	61	67	72	80	.81	83	87	55	.78	.78	.74	.77	.54	.05	
Lindsay				.36	76	78	82	.79	81	81	77	76	.71	67	48			
Barrie			.43	68	78	.82	78	.78	80	80	73	.70	.72	.73	65	.03		١.
Toronto			33	70	79	86	83	85	83	85	5.3	. 82	79	77	.72	.54	.07	
Kingston		.01	.30	50	47	56	71	.79	.77	.77	73	.70	.66	57	.63	.42	.03	١.
Ottowa		01	41	56	69	65	68	71	74	81	82	73	67	66	.55	.32	.02	
Montreal		Т	. 36	51	59	64	61	63	7.4	79	.77	62	60	. 50	.37	.16		
Cop Rouge			. 23	. 53	59	60	58	58	57	56	53	54	49	.49	44	.22		ĺ
Quebec			15	45	.54	51	57	59	58	57	51	50	47	41	.42	.15		
Ste. Anne de la Pocatiere		.04	37	56	59	57	54	58	60	59	64	57	49	45	.39	.28	.05	
Sherbrooke		. 02	.32	.56	60	56	61	60	57	5.5	68	70	56	58	, 58	33	.02	
Fredericton		l	18	30	43	.45	60	59	. 66	62	65	41	.59	. 48	. 45	.33	.04	
Charlottetown		01	.28	.40	.48	.55	.50	59	62	67	69	. 67	.67	63	51	28		1
Nappan			11	31	.37	46	.53	58	63	.65	72	68	. 61	59	48	.39	11	
Wollville		02	27	.39	44	.60	64	68	.72	69	69	.71	69	62	.59	43	08	1.
Kentville		-																1

Februille						
9llivllo7/	9.5	KG KG	1	56	33	
Zappan	225	¥.	1	Z	6.2	
Charlottetown	23.5	3	1	3.	2.	
Fredericton.	213	2	10	3	E	٠
Sherbrooke	9	23	-	9.	61	
st sb sant. sts.	17	17	-	3.	10	-
Quebec.	199	7	9	æ	91	
Cap Rouse	17 23	4C	i	X.	71	-
JestitesI.	- 545	3	-	56	16	-
Ottoma.	() ()	33	- s	3	C.4	-
notegatid	17	(G	-	ŝ.	30	
.ололоТ	ń	3	+ 0 + 10 - 1 + 9 -	<u>9</u> 1	Ξ	=
Ватте	51	3	- <u>.</u>	7	27	-
Lindsay	507	56	0	: - : -	54	-
Woodstock	313	9	+ 8 + 0	- 32	5	-
Hanes hury	243	. 13	Ť	6	30	
aoqidai N	303	8	24 	ź	7.4	-
Brandon.	ŝ	17	10	E	71	¢
Tosthern Trosthern	67.6	6	1	7	:5	e.
Scott	- 5%	E		00	ŝ	-
Mones faw.		-				
besH deibal	-98	6		52	<u>:</u>	^
Battleford	3			87	×	-
Fort / ermilion	798	10	+	1.0	€	25
Fort Dunvegan	975	2		, 9	ŝ	-
Med cine Hat.	311	I		ž	31	
edmose.I.	336	£	1	33	0.0	24
I ethibitige	52.5			ź.	7.7	
Гатоптов	-95	3		23	×	-
Harper's Ranch.	528	3	÷	Z	<u></u>	
Kamloops	- <del>2</del>	13	1	27	3	
basitemata8	010	3	<u> </u>	ź	77	-
-elliupaeaT	306	- 5		34	33	-
ZISSERY	061	33	1-	3	6	1 -
19лпоэцел	9	55	1	92	181	-
Sanatino.	ź	51	5.	2	E E	
Salmon Arm.	- 56	3		- 8	5	67
.впотогу	275	10			71	-
			- 1			
1913	Registered duration to hours	ercentage of possible duration	Difference from average	Maximum percent- age in one day	Date of maximum	umber of days completely cloud-
LX,	ars	dura	nce f	n n	man	letel;
1 5	giste a hot	Percentage of sible duration	ifferei erage	ar offi	te of	Number of completely ed
	2	E.	ű,	Ma	13a	2.

SUMMARY OF SUNSHINE RECORDS

#### Thunder recorded:

- 1. Westport, Chicoutimi, Liverpool, Beatrice, Rutherglen, Haliburton, Montreal, Kingston, Winnipeg, Swift Current, Edmonton, Vancouver, Gull Lake, Sherbrooke, Chaplin, Dunstable, Chilcotin, Daysland, Ranfurley, Sion, Perbeck, Springdale, Rathmullen.
- 2. Rapid City, Hillview, Almasippi, Aweme, Agincourt, Chapleau, Chicontimi West, Charlottetown, Minnedosa, Atlin, Saskatoon, Lindsay, Truro, Crescent Lake, Kindersley, Chilcotin, Kelowna, Nelson, Perry Siding, Halkirk, Springdale.
- 3. Nipigon, Lake Edward, Haliburton, Kakabeka Falls, Reserve 40, Sydney, Port Arthur, Atlin, Saskatoon, Chileotin.
- 4. Westminster, Georgetown, Brantford (Bow Park), Wiarton, Woodstock, Fredericton, Chicontimi, Ste. Anne, White Shore Lake, Mistassini, Madoc, Kakabeka Falls, Quebec, Toronto, Port Stanley, Cochrane, Medicine Hat, Harmattan, London, Lindsay, Gravenhurst, Saskatoon, Dunstable, Agincourt, Rutherglen, Aurora, Peterboro, Haliburton, Wexford, Paris, Brantford, Wallaceburg, Lucknow, Clinton, Birnam, Orillia, Bruce Mines, Tappen, Chilcotin, Nelson, Rossland, Salmon Arm, Halkirk, Ranfurly, Aiex, Hillsdown, Clemens, Springdale, Perbeck.
- 5. Rapid City, Emsdale, Woodstock, Hillview, Morden, Almasippi, Beatrice, Rutherglen, Lucknow, Clinton, Birnam, Markdale, Grand Falls, Cochrane, Port Arthur, Saskatoon, Athabasea Landing, Ranfurly, Sion.
- 6. Chicoutimi, Brome, Mistassini, Cap Ronge, Liverpool, New Germany, Big Chute, Orillia, Manouan Crossing, Chicoutimi West, Waseca, Duck Lake, Tappen, Revelstoke, Chilcotin, Kelowna, Pemberton Hatchery, Princeton, Vernon, Ruskin, Salt Spring Island, Haiifax, St. John, Quebec, Stone-cliffe, Parry Sound, Minnedosa, Victoria, Vancouver, Lindsay, Oliver, Qualicum, Keremeos, New Westminster, Hope, Chilliwack, Departure Bay, Salmon Arm, Perry Siding, Armstrong, Shawnigan Lake, Nanaimo, Athabasca Landing, Campsie, Sion, Springdale, Sherbrooke, Banff.
- 7. Westport, Hillview, Morden, Almasippi, Treherne, Heron Bay, Minnedosa, Swift Current, Edmonton, Atlin, London, Melfort, Chaplin, Crescent Lake, Muenster, Dunstable.
  - 8. Westport, Rutherglen, Cottam. Reserve 40, Port Arthur, Saskatoon, Halkirk.
- 9. Westminster, Deer Park, Georgetown, Emsdale, Brantford (Bow Park), Westport, White Rock, Woodstock, Brome, Timiskaming, Lake Edward, Madoc, Montague, Bruce Mines, Quebec, Montreal, Ottawa, Kingston, Toronto, Port Stanley, Swift Current, Haileybury, Lindsay, The Meadows, Cap Rouge, Agincourt, Beatrice, Almonte, Rutherglen, Morrisburg, Aurora, Port Dover, Peterboro, Halburton, Wexford, Paris, Brantford, Birnam, Orillia, Saskatoon, Oliver, Fort Qu'Appelle, Beaver Mines, Sjon, Okotoks, Springdale, Sherbrooke.
- 10. Cartwright, Bark Lake, Almasippi, Brome, Norwood, Reserve 40, Chicoutimi West, Quebec, The Pas, Moose Jaw, Edmonton, Oliver, Fort Qu'Appelle, Mayeroft, Tranquille, Annis, Tappen, Chilcotin, Creston, Nelson, Salmon Arm. Armstrong, Monte Creek, Loveland, Macleod, Springdale, Harmattan.
- 11. Oakbank, Almasippi, Swift Current, Medicine Hat, Edmonton, Melfort, Saskatoon, Kindersley, Tappen, Pemberton Hatchery, Waneta, Ranfurly, Okotoks.
- 12. Georgetown, Wiarton, Westport, Morden, Rutherglen, Port Dover, Madoc, Lueknow, Bruee Mines, Cottam, Reserve 40, Kingston, London, Dunstable, Qualicum, Quesnelle, Vernon, Ruskin, Salt Spring Island, New Westminster, Nanoose Bay, Chilliwack, Departure Bay, Alberni, Nelson, Perry Siding, Nanaimo.
- 13. Cartwright, Fredericton, Almasippi, Sussex, Haliburton, Sydney, Montreal, Swift Current, Medicine Hat, Saskatoon, Scott, Oliver, Nelson, Waneta, Halkirk, Ranfurly, Hillsdown, Springdale, Sherbrooke, Rathmullen.
- 14. Rapid City, Cartwright, Hillview, Almasippi, Kentville, Windsor, N.S., Reserve 40, Charlottetown, Qu'Appelle, Truro, Creseent Lake, Chileotin, Tranquille, Keremeos, Nelson, Perry Siding, Halkirk, Loveland, Sherbrooke, Lost River.
- 15. Cartwright, Moose Jaw, Edmonton, Crescent Lake, Pense, Waterton Mills, Tranquille, Creston, Salmon Arm, Halkirk, Clemens, Rathmullen.
  - 16. Wallaceburg, Birnam, Cottam, Qu'Appelle, Medicine Hat, Oliver, Waneta, Okotoks,
  - 17. Cap Rouge, Reserve 40, Quebec, Cochrane, The Pas.
- 18. Westport, Quinze Dam, Fredericton, Liverpool, Schreiber, Almonte, Rutherglen, Renfrew, Madoc, Montague, Montreal River, Grand Falls, Reserve 40, Aitkensville, Montreal, Ottawa, Stonecliffe, Kingston, Medicine Hat, Haileybury, Sherbrooke.

- 19. Emsdale, Westport, Quinze Dam, Abitibi, Mistassim, Schreiber, Rutherglen, Renfrew, Aurora, Madoc, Haliburton, Lucknow, Birnam, Kakabeka Falls, Heron Bay, Colars, Ottawa, Kingston, Port Arthur, Medicine Hat, Haileybury, London, Sion, Sherbrooke.
- 20. Georgetown, Emsdale, Westport, Bark Lake, White Rock, Wordshek, Fredericton, Mistassini Lake Edward, Liverpool, Agincourt, Athabasca Landing, Campsic, Okoroks, Goderich, Madoc, Brantford, Lucknow, Clinton, Birman, Grand Falls, Reserve 40, Chicontini West, St. John, Quebec, Stone-cliffe, Kingston, Toronto, Port Stanley, Medicine Hat, Lindsay, Truro, Graverburst, Melfort, Crescent Lake, Tranquille, Chilcotin, Creston, Lost River.
- 21. Rapid City, Cartwright, Fredericton, Almasippi, Kentville, Windsor, X.S., Liverpool, Sydney, Winnipeg, Minnedosa, Halkirk, Loveland, Hillsdown, Clemens, Okotoks, The Pas, Qu'Appelle, Wolfville, Truro, Fort Qu'Appelle, Brooks, Cowley, Pekisko, Annis, Tappen, Glacier, Kelowna, Vernon, Cranbrook, Creston, Nelson, Nicola, Rossland, Salmon Arm, Perry Sid ng, Monte Creek, Campsie, Rathmullen.
- 22. Westport, Invermere, Schreiber, Aurora, Norwood, Kakabeka Fa 's, Reserve 40, Port Arthur, Swift Current, Battle Creek, Glacier, Summerland, Creston, Nakusp, Nelson, Rossland, Wilmer, Waneta, Perry Siding, Armstrong, Invermere, Banff.
- 23. Deer Park, Georgetown, White Shore Lake, Agine art, Almonte, Madoc, Peterboro, Wexford, Orillia, Montreal River, Grand Falls, Nelson, Cape Magdalene, Chicominni West, Ottawa, Kingston, Toronto, Qu'Appelle, Haileybury, Lindsay, Annis, Kelowpa, Nicola, Rossland, Wan ta, Brooks.
- 24. Westport, Brome, Ste. Anne, Cap Rouge, Almonte, Morrisburg, Madoc, Haliburton, Montague, Reserve 40, Anticosti S.W. Pt., Quebec, Montreal, Dunstable, Gravenhurst, Waneta, Campsic, Springdale, Sherbrooke.
- 25. Fredericton, Sussex, Kentville, Summerside, Charlottetown, St. John, Kingston, The Pas. Edmonton, Truro, Melfort, Macleod, Rosthern, Crescent Lake, Coleman, Mayer ett, Mountain View, Waterton Mills, Beaver Mines, Ranfurly, Lost River.
- 26. Brantford (Bow Park), Westport, Oakbank. Almasippi. Schreber, Mache. Bruce Mines. Heron Bay, Reserve 40, Winnipeg, The Pas, Qu'Appelle, Grand Prairie
- 27. Wiarton, Westport, Niagara Falls, Chicoutimi, Mistassini, Agine aurt, Port Dover, Madoc, Wexford, Wallaceburg, Lucknow, Dunstable, Alkali Lake, Vavemby, Campsie, Ranfurly, Clinton, Birnam, Orillia, Cotta.u, Reserve 40, Stonceliffe, Southampton, Parry Sound, Edmonton, London, Lindsay, Gravenhurst.
- 28. Westport, Chicoutimi, Brome, Ste. Anne, Cap. Rouge, Markdale, Montreal River, Anticosti S.W. Pt., Quebec, Montreal, Kingston, Port Stanley, Waseca, Mountain View, Chilcotin, Rossland, Yarbo, Ranfurly, Hillsdown, Sherbrooke, Springdale, Lost River.
- 29. Rapid City, Cartwright, Westport, Perkins Mills, Hillsview, Morden, Almasippi, Treherne, New Germany, Norwood, Aitkensville, Port Stanley, Port Arthur, Winnipeg, Perbeck.
- 30. Morden, Sussex, Schreiber, Cedars, Halifax, St. John, Ottawa, Port Arthur, Minnedosa, Truro.
- 31. Abitibi, Schreiber, Montreal River, Bruce-Mines, Kakabeka Falls, Chapleau, Cochrane, Port Arthur, Haileybury.

## Auroras recorded:

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- 31. Aitkensville IV, Melfort IV.

## FORECASTS FOR JULY 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1338. These were divided as follows:—

			VERIF	ED.	
District	No. Issued.	No. Fully.	No Partly	No. Not	Per- centage
Alberta	81	58	16	7	81.5
Saskatchewan	80	56	16	8	80.0
Manitoba	50	60	12	S	82.5
Lake Superior	125	76	33	16	74 0
Lower Lake Region	125	105	14	6	89 6
Georgian Bay	125	101	16	5	57 2
Ottawa Valley	110	543	15	2	90 0
Upper St. Lawrence	110	92	16	2	90.9
Lower St. Lawrence	124	42	24	8	53 9
Gulf	126	42	34	10	78 6
Maritime Provinces West	126	92	28	6	84-6
Maritime Provinces East .	126	95	25	6	86.1
Total	1335	999	252	87	84.1

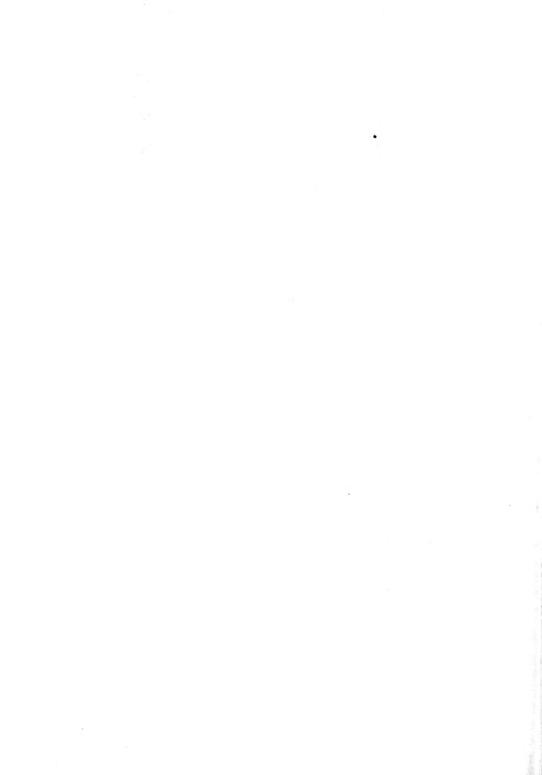
In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

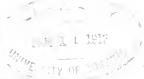
In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director

 ${\bf Meteorological\ Office,\ Toronto,}$ 

August 25th, 1913.





## DEPARTMENT OF MARINE AND FISHERIES, CANADA

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

AUGUST, 1913

No. 8

### INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

## TEMPERATURE.

The monthly mean temperatures were above the average by about 2° in British Columbia except locally along the Upper Fraser River; were from 2° to 4° above average in the Western Provinces and varied from average to 2° above in Ontario.

From Montreal eastward to the Atlantic temperatures were in nearly all districts below average, but by only 1°.

Between the 13th and 15th in Manitoba, and the 15th and 18th in Ontario, the weather was excessively hot, maxima approaching very closely to 100°.

#### PRECIPITATION.

Except along the Lower Fraser River, the North Coast and in the Queen Charlotte Islands, the rainfall in British Columbia exceeded the normal amount by a small quantity, but occurred on from six to nine days only in most districts.

In the Western Provinces the rainfall was heavy, and in several instances the amount which fell was twice the normal quantity. It was recorded on from six to lifteen days.

In Ontario, along the Upper St. Lawrence and Lower Ottawa Rivers, and in the Georgian Bay counties the rainfall was less than normal, but elsewhere in that Province was largely in excess.

In Quebec and the Maritime Provinces there was a general deficiency except in the northwest ern section of Quebec.

#### HIGH AREAS.

Nine areas of high pressure were charted, seven first appearing on the Pacific coast between latitudes 50° and 60°, one on the coast of the State of Washington, and one in Dakota. The general course of the areas was either over or to the northward of the Great Lakes, thence southeast to the New England and Middle Atlantic States.

The systems in almost all cases were of the usual fe ble summer type.

## LOW AREAS.

Eight areas of low pressure were sufficiently well defined to allow of the paths being approximately charted.

Six first appeared in British Columbia, mostly towards the northern portion, one in the North Pacific States, and one in the vicinity of the Middle Atlantic States. The general track of the areas was over the Western Provinces, thence far to the northward of the Great Lakes, and over either Labrador or the Gulf of St. Lawrence.

## ATMOSPHERIC PRESSURE.

The values of the mean atmospheric pressure for August at the Telegraphic Reporting Stations indicate that pressure was generally above average throughout Canada. The departure from normal was in most localities about 0.03 of an inch, and reached or exceeded 0.05 of an inch over the greater part of the Maritime Provinces and also locally in Manitoba. Near the shores of Lake Erie values were slightly subnormal.

## FREE AIR DATA

## REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8° N., Long. 80 47° W.) or August 6th, 1913.

Instrument--Dines Meteorograph. Beginning of Ascent—Laun. G.M.T. Barometer—7.35 mm.

Temperature 18 3 C

Direction of flight at Beginning —slowly West, gradually turning to So. (i).

Fell 152 km, distant \$150 E. Maximum He glit 13% km. Maaman Te epent 5 51 0 C

Height in km. above S.L.	Pressure r. m	Temperature in Ce	mtigrade dej se
G.L0.3	7.5	18.	3
0.5	717	;7 O	16.0
1 0	673	14.5	13.5
1.5	635	11.5	11.0
2.0	598	8.5	8- ()
2.5	561	6 5	5 5
3 0	528	2 7	2 0
3 5	341 7	( 1	
4 ()	465	- 1.5	2.5
4 5	437	5 0	6.5
5.0	409	8 0	9.5
5.5	383	10.0	12.5
6 0	.359	15.0	1(5-1)
6.5	3.37	18.0	19-0
7 0	313	-22.0	25.5
7.5	292	26.5	27.3
8.0	273	30	(+
8.5	255	33.	. 0
9 0	236	- 36.	. 5
9.5	220	-41.	. 0
10.0	204	-44	.5
0.11	175	-48	. 0
11.6	161	-50	. 5
12.0	150	- 50	. 5
12.5	140	- 50	. 0
13.0	129	- 49.5	-51.0

An area of high pressure was centered to the north of the great lakes, giving fine and moderately warm weather throughout Ontario.

## WINDS, AUGUST, 1913

PROVINCES ANI	STATIONS	Total	Greatest Mileage	Greates	t Mileage in	1 Hour	Nu	mber•of D:	ays of	GENERAL
		Milcage.	24 hours.	Miles	Direction	Date	Gales	Strong Winds	Fresh Winds	DIRECTION.
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Vancouv 1 Katalo m-		3355	259		s	22			3	
Arbenia.										
Edmontos Carrary	,	13422	à75	23	NW			1	6	NW
ASKATCHEW IN.									1	
Buttleford Prince Albert		7112	590	40	sw	15	2	6	12	NW
Swift Current Qu'Appelli		792 <b>4</b> 6563	470 401	26	NW	<sub>27</sub>	l. '' '''	6	11	NW NW
MARITORA										
The Pas Winn peg	100	7695	120	34 31	SE-NW	25 11	2	4	20	W SE & NW
ONIARO										
Port Arthur White River		6580	431	32	N	22	2	7	13	NW N
Cachrane Patry Sound		5290 4 los	258 283	19		23		1	15	N SW
Southampton Polee Usland Woulstock:		36.44 7261	492 531	21 34	W.	16~26-29 27	6	5 6	16 11	NW
Caudali Lagoria		580 <b>3</b> 7,560	322 403	ai		26		14		SW E
Ranget of stoneolthic		3191	171	14	· · · · · · · · · · · · · · · · · · ·				5	SW W
Official										SW
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riser Labora, Isi	151)								-	
Charlottetown		5003	349	21	sw	21		2	12	sW
21 lives also			1		1					

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA. AUG., 191

\*Stations not furnished with Registering Thermometers

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STATION.		Latitude N.	Longitude W.	Elevation above sea level, in feet.	Меап.	Difference from average.	Ar's Observations	Highert.	Date.	Lowest.	Date	Mean daily range.	Amount	Difference from average.	Heaviort fall in	lays with .01 or more	No. of farr days	No. of aur ras	No of thunderstorms
BRITISH COLUMBIA-							_						-			I	=	-	27
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Lower Fraser River Agnssiz. Chilliwack. Hope Ladner. New Westminster North Niconien. Pemberton Hate hery. Pemberton Men dows. Ruskin (Stave Falls) Steveston(Garry Point). Vancouver.	49 49 49 49 49 49 49 49	10 23 05 13 12 20 20	121 31 121 57 121 25 123 4 122 54 122 5 122 33 123 17 122 23 123 5	52 21 500 330 59 125	64 5 63 9 64 5 62 0 63 9 65 8 60 3 65 8 61 2 62 8	+ 0 9 + 1 3 + 2 8 + 2 4 + 2 2 + 1 0 + 1 3	13 26 21 5 1	91 0 92 0 91 0 80 0 85 5 92 0 92 0 88,0 97 0 78 0 82 2	1 1 1-10 1 1 1 1 2 23 1	46 0 48 0 46 0 48 4 45 0 42 0 44 0 44 0 47 9	17-20 16-20 16-20 20 16-20 20 20 21 21 21	70 0 11 0 19 6 22 1 24 7 27 3 25 2	2 24 1 24 0 25 0 36 2 44 3 15 1 50 0 51 0 51	-0   1 -6   07 -0   97 -1   20 +0   40 -0,(6 -0,14	0.80 0.94 0.94 0.15 0.24 1.01 1.30 0.64 1.71 0.35 0.24	\$ 10 10 2 ± 5 7 8 10 4 8	21 21 21 23 24 24 27 27 27		3 1 1 2 1
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Armstrong Acheroft Enderly Harper's Ranch Kymlong Monte Creek Nicola Lake Salmon Arm Tappen Tappen Tennoville	50 50 50	4! 9 42	119 7 120 20 120 39 119 35	1180 1245 2120 1152	64 5 65 2 61 7 61 3 64 8 61 67 3 68 0	+ 0 \ + 0 1 + 0 4 + 1 0	10 21 15 15 12 1 5	4 0 42 7 55 5 24 7 9 0 90 0 92 0 96 0	1 1 2 2 5 2 1-5 1 5 1 5	41 · · · · · · · · · · · · · · · · · · ·	1- 1- 1- 20	21 1 27 1 27 1 24 1 26 1 27 1 27 1 27 1 27 6 17 5 30 7	1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5	2		2225
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## TEMPERATURE AND PRECIPITATION AT STATION 8 IN THE DOMINION OF CANADA, AUG., 1913.

\*Stations not furnished with Registering Thermometers

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STAURON.	Latitude N.		Longitude W	Elevation above 868 level, in feet	Mean	Difference from average	Yr's Observations	Highest	Date	Lowest	Date.	Mean daily range.	Amount	Difference from average.	Heaviest fall in month.	Days with 0.1 or me	No of fair days	No. of auroras.	No. of thanderstorms	No of logs
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Pie Red Deer River Alix Clemens Delta Ordsbury Glacmattan Helsdown	51 51 51 52	24 38 40 45 14	112 25 114 8 114 23 113 29	3500 2806	60,5 63.0 60,2 59.3 56.1 59.1	- - + 2 2 - -	8 1 3 11 6 9	95 0 92 2 83.5 86 0 84 0 83 0	2 3 26 26 24 1-5	35 5 36.2 28.0 32 0 37.0	10-17 -21	31 0 27 5 21 9 24 2 28.1 25.9	1.62 2.54 3.10 3.62 4.08 1.45	-0.16	0.35 0.67 0.67 0.55 0.90 0.31	11 8 10 13 13 13	20 23 21 18 18 18	·: ·: ·i	1 4  1 7	i
Hacombe (Ex. Farm) Perbook Hed Dear Springdate	52 52	16	113 44 113 49	2783	57 6 59 3		1 1	84 0 87.5 82 2	26 1 1	35.4 35.5	19 19 27	26 8 26 8	2 43 3.66 4 66	=	0 42 1.22 1.12	14 12 14	19 17	::	10	::
The How River trooks.  trooks. Cardeton. Gleechen High River isaweence (Parkhaul) Lethbridge (Esp. Farm.). Lumibreek. Macleud Medicane Hat Okotoks. Strathmore	50 51 49 50 50 49 49	34 2 12 59 35 16 42 43	114 54 114 2 113 18 112 54 113 53 113 26 112 51 112 51 113 24 110 37	3427 2952 3394 2961 3128 2143	62 9 61 4 60 7 60 2 59 1 63 4 55 4 63 6 69 6 57 5	+ 2 3 + 2 6 	6 1 1 1 6	91 0 90.0 88.0 86.0 85.0 92.8 81.5 91.5 97.0 85.2 87.8	23 23 4-24 4-9- 101 24 2 2 24 27 23	32.0 38.0 35.0 35.0 35.0 37.0 44.0 32.0 37.0	17 9-30 16 16-20 16 16-19 16.16	27 3	0.07 5.10 1 48 2.16 1.47 1 93 3.20 1 48 2 43 1 90 2.37	+2.67 	0.04 0.86 0.55 0.65 0.80 0.50 1.22 0.55 1.52 0.67 0.38	2 14 5 8 5 11 8 9 6 6 12	29 17 26 23 26 20 23 22 25 25 19		1 2  1 3 5 2	
Sandiat	50	6	112 34		63.3		3	92.0	23	40.0	15	28 4	1 65		0.63	5	26			••
Rocky Mountains Band Beasen Forest (C al Spur	51 49	10 40	115 34 114 30	4542 4225	56.7 51.6	+ 2.0	18	83 2 86 0	1 5	30 2 20 5	16 20	26 9 38.7	2.85 1.70	. +0 48 —	0.75 0.72	9 8	22 23		6	1
Athabasea River																		1		
Athabasea Landing Lunniord Pambica	54 54 54	43 33 12	113 17 114 19 114 0	1650	58 7 55 1		10 -4	85 0 80.0	1-5	33 0 32 0	30	25 7 24_5	2.64 2.83		1.31 0.71	9	25 22	:.		::
Pence River Beaver Lodge Donvegnation Fort Vermition Fort Vermition (2) Grand Prairie Pages River Crossing SpirtRiver	55 55 58  56 55	15	119 24 118 35 116 3  117 15 118 47	1305	58,5 		2	89.0 81.0 82.0	3  2 2-4	33 0  35 0 39 0	2-21	26 2  28.1 22.4	2 53  1 40 2.91		1.63	7  t 10	24	1	₫3	1

\* states and Landshed with Beginners and the

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				T vi.				PITALD	V Z	
STATION.	Jaturak N.	Floration above sea feed, at feet. Mean.	Difference from average.	Yrsobervahors Hober,	D	Is weet	Ž		However farles in corts I. or with the mon	
Sase vidental -										
Qu'Appelle Iller	0									
Broadlaw Brownint (Green) For Brownin Brownin Crescent Lake Estevan Fort Qu'Appell Hubber (Thumana Hupenal Induse Head Kamsack Manor Moose Jaw Moo		Proceedings	- 1 - 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1			
Chaplin Eest End (Divide) Relvinburst (Nashlyn- Kindersley, Larchmount (Glenbry Oliver Rathmullen Swift Current.	1) 26 1 1) 21 2 51 49 3 4) 71 1 0 1 1) 51 1 7 51 20 1 7 50 27 1 7 5	2302 62 		1 90 3 120 4 120 5 140	1 - 1 - 1 - 1 - 1		7 2 1 1			
N. Saskatchetten Liver Battleford Llovdminster Lusseland Oliver Onion Lake, Prince (Meota), St Wallurg Scott (Ex. Farm) Wasca	52 41 10- 53 18 110 0 52 5 10 0 53 52 1 4 50 53 6 10 0 51 59 100 50 53 6 100 20	1620		3 85 6 6 85 6 4 86 1 6 84 0	4-20 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0	18 1 18 1 18 1 18 1	15 15 20 17 17 - 1 2 17 - 1	2	1 (max + 14)	15 .: =
The Saskatchewaa Forks										
Chagoness (Star City). Duck Lake. Melfort Prince Albert. Rosthern Saskatoon.	52 32 1 1 13 52 54 1.6 20 52 47 10 20 53 10 105 0 52 40 105 2 52 15 100 0	58 6 1402 62 1657 60 6 1571 61 t	+29:	4 90 0 5 50 5 3 52 1 5 50 4		11 S 41 2 11 1	17 24 00 17 27 1 17 17 1 17 1 7	$\frac{1}{3} = \frac{1}{6} = \frac{12}{13}$	0 (s = 1 2 0 = 1 1 47 = (2 0 62 = 1)	10
Lower Saskatehewan River	50 50 50 11									
Cumberland House Lost River	53 56 IC 16 53 I7 Ic4 21	58 8		3 81 0			1<2>	4.7	1.10-11	
Manitoba-										
Qu'Ammelle and Assin baine Ricees Awenne (St. Albans) Boissavain. Brandon. Carberry Carman Carberry Carman Hilbrew Minnedost. Ninette. Ninet. Ninete. Ninea Piperson. Pinestone. Partieso la Prairie Datasso la Prairie Treberne. Treberne.	19 49 00 11 50 25 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1180 66 7 11763 67 2 11764 63 8 11764 63 8 11764 63 7 11600 63 7 11600 63 7 11600 63 7 11600 63 7 11600 63 7 11600 65 11	4 1 5 2 4 1 6 2 4 4 0 1	8 40 0 0 8 40 0 0 0 0 0 0 0 0 0 0 0 0 0	11 15 14 15 13 15 15 15 15 15 15 15 15 15 15 15 15 15	42 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	# 27 8 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.75   1.	1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Almasippi Mordon Oak Bank Stony Mountain Winning	40 14: 90 20 10 11: 98 6 40 57: 96 42 50 40 97: 14 10 53 97: 7	978 65 2 800 63 1 803 : 61 0 760 : 65 1	+ 2 5 1 + 1 6 3 + 2 0 4	1 10 0	13 15 11 11 14	40 0 40 0 41 5 40 0 44 1	6 25 6 2 10 12 7 24 71 5 10 29 5 10 21 9	3 17 4 1 85 3 76 - 1 18 4 5 75 3 85 4 1 80 4 71 +2 37	1 02 6 1 86 7 1 50 4 3 22 13	21 4 .5 3 .64 2 .7 1 18 5 4

\*Stations not furnished with Registering Thermometers.

								Темре	RATURE				PR	ECIPITAT	ION.	more.				
STATION	Latitude N.		Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations	II.gbest	Date.	Lowest.	Date.	Mean daily tange.	Amount	Difference from average	Heaviest full in nionth.	Days with .01 or mc	No of fair days.	No. of auroras.	No. of thunderstorms.	No. of logs.
Mastro v Continued	-	_					_									_	_	-	_	_
Deruphia Lake and River Berens River Deuphin Moose Horn Bay (Adkens- ville)	51 51	18 8 15	97 23 160 2 99 33	710 957	62 0 62 3		3	87 0 85 0	14	40.0	· 2	21 4 19 7	2 05 2 12		5 67 0 81	6	25 20	::	5	i
Lake Wernepegosis Le Pis	12	6	101 15	1112	61.4		4	89.0	20-29	35 0	9.10	19-8	2 52	_	0.52	16	15	1	4	0
Onratio - The Loke Superior Districts Rating River For Frances Kenora Shori Lale	49	44	p 32	1162	60 4 65 5	-19	14	87 0 82 5	16 14	29 0 49 0	12~13 10	26 9 17 4	1 11 3 87	17	1 02 1 50	4 8	27 23		4	
Thunder Bay Isakabeka Falls. Part Arthur Schrener	48 18 48	29 27 50	89 26 83 12 87 15	912 614 933	61 3 61 2 57 7	+ 1 3 - 0 1	5 32 10	90 0 85 0 81 5	16 2 17	31 0 35 0 37 5	7~24 24 25	27 7 20 6 20 7	2 79 2 87 4 61	_0_16	1 18 1 35 3 00	10 11 10	21 20 21		5 7 3	5 5 1
Algonia Brace Mass Chapter 3 Copper (3) For copies For videos Bay Intrinsic (Sar ly Lails) White fities White fities Myptission Colotace Inspersely its Monitor's Livet Monitor's Livet	46 46 45 48 49 47	18 30 49 35	83 55 89 54 83 14 85 16 79 39 79 39	595 1252 146 687	65 1 61 2 63 0 63 5 63 7 56 7 59 1 62 5 59 8 56 9	+ 2 1 0 5 + 0 2	14 1 1 2 24 24 3 24 3 24 3	88 0 89 0 93 0 93 0 84 0 86 0 90 0 90 5 90 4 93 0	16-17 15 17 16 16 16 14-15 15 15 15 17	38 0 30 0 .7.0 31 0 41 0 27 0 30 0 21 7 23 0	25 25 25 25 25 25 25 25 25 25 25 25 25 2	23 4 16 3 21 6 24 6 17 8 27 2 23 0 20 2 23 7 35 8	3 18 1 62 1 97 3 24 3 50 2 06 2 54 5 09 2 91 2 76		0.72 0.38 0.58 0.69 0.36 0.66 1.30 0.49 0.73	10 8 8 13 11 15 17 14 17 7	21 23 23 18 20 16 14 17 14 17 14 24	1	5 1  .3 .3 	
Upper Ottawa River Ruthergen (lake Infon Stoor air (Rockhilo)	46	15	71 15 75 6	557	63 0 63 7	· 1 2 - 1 0	19 35	92 2 97 0	17 17	30 6 56 0	25 24-25	23 7 26 I	4 31 5 46	+1 35 +0 50	1.63 1.47	12 16	19 15	::	4 3	4
Upper St Lawrence and Lower Ottawa Rivers Almosto Riomanisti Hilber Krasston Montager Mortistar North Caver Ottawa Reefron	45 43 14 44 15 15 15	12 59 13 56 - 8 26	76 13 77 21 76 20 75 57 75 43 75 43 76 35	300 260 2~5 294 410	64 4 68 5 67 5 67 2 65 1 64 1 66 5 65 9	+ 0 9 + 0 7 - 0 8 + 2 2	2 13 2 35 4 1 9 30 21	94 2 95 0 93 0 87 8 95 5 95 6 95 5	17 18 18 17 17 16 16 16 16	35 2 41 5 43 0 41 2 50 5 31 0 41 0 55 5	15 25 25 25 21 14 25	20 8 22 5 21 3 17 6 25 9 27 1 29 3 19 8 28 4	3 34 1 31 0 83 2 81 3 12 2 34 	-0 63 -0 13	0 20 1 00 1 32 0 80	11 3 4 8 8 9 11 8	20 28 27 23 23 22  20 23		6 5 2 5	
Georgian Bay Counties Harter Heatter Heatter Heatter Coldwaier Coldwaier Coldwaier Hunteville Midbaud Hack he Stowns Owen Sound Parry Sound Rocyille Rocyille Rocyille Rocyille Rocyille Rocyille Rocyille Rocyille	44 14 14 15 45	23 8 31 51 19 41 37 34 19	79 41 79 20 79 40 80 2 79 20 79 20 79 5 79 53 79 54 80 55 80 0 78 57 79 25	839 800 600  750 775 635 1038	64 0 64 7 60 8 65 8 67 4 65 5 62 5	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	41 21 42 6 2 13 18 37	88 0 93 0 95 0 92 0 93 0 91 0 95 5 94 0 98 0 92 0 93 0	15 1-15 16 17 17 17 13 16 16 16	31 0 37 0 38 0 31 0 32 0 54 0 43 0 35 0 43 0 35 0	25 10 26 25 23 23 25 24 25 24 25	22 2 2 2 2 6 29 4 26 5 26 5 26 3 16 9 24 1 21 9 23 8	1 60 1 00 1 34 1 66 1 54 4 53 2 92	-1 70 -0 53 -0 84 +1 53	1 72 0 60 0 31 0 65 0 44 0 80 1 13 0 96 1 76 1 33	10 6 2 7 7 3 8 7	21 25 29 24 24 28 23 24 20 23		3	
Lake Huron Counties Buronn Clinton Counties Counties Counties Counties Counties Counties North Buse Point Chirk Southerington Lakes St Clair & Erie,	43	2 32 45 56 23 5	81 55 81 37 81 41 81 30 51 25 81 44 81 21	600 908 595 656	67 4 66 6 66 9 64 8	+ 1 1 + 2 1 - 0 2 - 1 3 + 1 2	30 11 23 27 	87 5 93 0 91 0 88 9	16 1 1 16 	41 0 37 0 41 5 34 9	25 25 26 25 25	18 8 22 3 18 9 24 1	5 79 5 60 3 21 3 86	+1 21	2 14 2 13 1 53 0 99	6 9 8 10	25 22 23 21 		8 5 2 6	··· ··· ··· ··· ··· ··· ··· ··· ··· ··
Linkes ST Chair & Erre, Linkes ST Chair & Erre, Chat hom, Cottam Datton, Common Pole Island Port Perwell, Port Doers Ford Shadenes Stoney Cheek Walkershard Walkers Walkershard Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers Walkers	43 41 42 42	23 7 59 27 40 9 13 59 20	82 12 82 45 79 36 82 35 80 55 80 13 81 13 70 17 79 45 82 21 79 17 83 4	5°5 606 585 592 635 592 347 292	71 7 71 0 69.5 79.3 66.3 67.7 67.1 68.5	+ 3.2 + 2 2 + 6 3 - 0 1 + 0 1 + 0 4 - 0 6 + 0 9 + 1 5	26 25 4 29 10 37 39 29 29 25 2.8	96 0 96 0 95 0 99 5 84 0 88 5 86 2 95 0 91 0 93 0	17 16 16 17 17 17 17 17 17	53 0 59 0 47 0 61 0 41 5 42 1 41 0 44 0 51 0	5- 11-12 24 24 30 25 25 25 25 25 25	21 2 28 5 20 5 10 3 17 7 18 6 18 2 21 2 19 6 18 9	3 61 1 38 5 87 0 62 6 17 6 63 5 53 5 08 4 48 2 13	-0 02 -1 37 +2 37 +4 33 +3 00 +3 60	2 43	4 4 5 7 10 9 5 8 6	27 27 22 26 24 21 22 26 23		4 5	'i

• Stations not furnished with Registering Thermometers.

					ses				T1.30	PERATU	HE			1'141	CPITAT	IoN	nore			9	
STATION		Latitude N.		Longitude W.	Elevation above se level in feet.	Mean.	Difference from average.	Yr's Observations	Highest	Date.	Lowest.	Pate	Mean daily mage	Ancient	Вийстепое (тот Алегадо,	Heavest fall in menth	Days with Oloring	No of fair days	No of auroras	No of thunderstorms	No of fogs
Ontario-Continued-																	_		_		
West-Central Counties		,	0	,																	
Alton. Brantford. Elors. Gue ph Lastowel. London. Paris Shelburne Stratford Woodstock	13 43 43 43 43 43 43 43	51 16 41 33 59 12	511	5	1259 750 1274 1050 805 840 1191 980	67 7 65 7 67 8 66 2 68 9 68 9 66 7 66 7	$\begin{array}{c} -0.2 \\ +2.0 \\ +2.1 \\ -1.0 \\ +2.0 \\ -1.9 \\ +0.2 \end{array}$	29 16 26 13 29 21 37 41	95 0 95 0 95 0 96 0 94 1 94 0 91 0 89 0	17 16-17 4 16-18 16-17 16-17	45 0 54 0 58 0 57 0 42 0 36 0 50 0	25 25 25 25 25	26 7 27 8 23 8 24 9 24 9 24 5 22 6 21 4	4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 27 + 0 65 + 1 15 + 1 - 4 + 3 45 + 1 - 8 - 1 50 - 0 09	1 55 1 57 0 50 1 82 1 50 1 -4 1 05 1 82	3 11 7 10	24 23 21 24 24		6	1
Lake Ontario Counties																					
Agincourt. Aurora Hamilton. Oshawa Torouto Torouto Is (Lakeside Home) Uxbridge Wexford.	43 43 43 43 43 44 43	57 16 53 40 49 5	190 59449	16 24 51 52 21 24 57	510 886 303 331 350 886 555	65 5 64 9 68 7 68 7 65 1 66 2 65 3	+16	17 6 23 72 9 9 2	96 0 92 0 93 0 92 0 96 0 96 0 88 0	16 16 16 16 16 16 16 16	41 0 35 0 41 0 42 2 47 0 37 0 39 0	10 mm 10 mm	23 4 24 5 19 6 20 3 15 6 22 1 13 1	1 87 4 71 1 78 2 27 3 28 1 87	+0 37 +1 55 +2 60 -6 29	1 12 2 36 6 55 6 56 	10 11 	11 11 11 11		5 1  7  5	1
East-Central Counties																					
Bancroft Haiburton Kimmount Lakkeheld Lindsay Madoc Norwood Peterboro' Ursa	45 44 11 44 44 44 44	25 20 30 17	17 8 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	50 28 38 15 15 29 19 18	1050 920 850 872 575	63 0 64 7 62 4 67 3 66 6 66 2 65 9 66 5	+ 2 3 + 1 5 + 0 1 + 0 7 + 2 1 - 0.8	19 26 11 31 34 9 43	92 5 94 0 90 0 91 0 97 5 94 0 96 0 97 0	17 16 16-17 18 16 17 16 16	31 0 31 0 31 0 441,0 37 × 37 0 35 0 36 0	24 25 24 25 25 25 25 25 25	26 7 30 9 30 1 1 1 0 26 6 27 5 25 4 25 6	0 05 2 01 3 34 2 91 5 07 3 35 3 37	-0.59 +0.81 +0.51 +0.57 	0 65 1 20 2 15 2 35 1 24 1 55 2 50 1 22	1 6 9 1 7 6	30 25 27 24 24 24 25 25 26 27 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20		1	1
QUEBEC-																					
Middle St. Lawrence Beauceville Brome Cap Rouse Cedar Rapids D'Israel Montreal Quebec Ste. Anno de Bellevue Shawbridge Shawbridge Shawbridge Shawbridge Shawbridge	45 46 45 45 45 46 45 46	11 10 46 55 30 48 27 34 32	70 73 71 71 73 73 73 73 73	48 36 18 21 35 13 59 43 5	557 678 132 896 187 296	63 5 62 3 61 6 65 3 66 1 62 9 60 8 50 6	$\begin{array}{c} -0.7 \\ -0.7 \\ -0.2 \\ -0.1 \\ -0.5 \end{array}$	33 3 1 39 59 2 10 10	89 3 87 0 93 0 91 0 88 8 82 6 89 5 94 0 87 7	18 17 16 18 17 15 15 17	34 0 34 0 40 3 40 0 13 3 40 5 37 5 34 0 57 7	28 26 25 25 25 25 25 25 25 25 25 25	28 8 21 7 21 1 20 2 16 8 18 0 35 6 25 2 22 7	2 14 2 (2 1 9) 1 12 2 54 1 (6 	-2 60 -1 47 -1 95 -1 07 -1 07	0.55 0.88 0.58 0.60 0.67 0.83 	10 10 5 12 9 	21 21 23 10 19 22 19		6 2 2 3 4 1	5
Lower St. Lawrence & Gult	10	0		411	1	56.9	+ 0.7	30	11.77		46.0	26		0.97		1.42		15.*			
*Anticosti E. Pt. Anticosti, S.W. Pt. Anticosti, W. Pt. *Pricase Control of the C	49 48 49 49 49 49 47	52 25 6 16 31 22	61 14 15 15 15 15 17 17 17	42 53 45 20 10 2	30 30  93 20 65	55 8 61 9 56 7 57 9 56 1 60 4	+ 0 7 - 1 4 - 2 2 - 1 1 + 0 5	27	67 0	15 0-15 0 1 22 10	45 0 15 0 12 0 67 0 30 0	24 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28		1 2 4 2 4 1	-1 37 -0 76 -2 85 -0 70 0 14	0 87 0 11 0 12 1 11 0 12 1 11	11	15	1		3 4 4 5 4
Lake St. John Chicoutimi Chicoutimi (2)	13	25	71	5	159	69.4	0.2		SI 5		111			4	+1.91				i	;	
Chicontini (2). Lake Fdward. La Tuque Mistrasini. *Roberval	47 47 48 48	34 27 51 31		15 45 15 13	1313 520 301 352	57 6 67 4 57 9		- 12	-1	15 1 15		11.12		i n		1.87					
The Northwestern Districts	14	30		23		61 1		17			1				- 21						
Manouan Crossing Tentiskaming Weymontachingue (Dam A)	17	51		50		51 4 56 6 55 5		1 7 2		1 4 2.7			i 1	, .		1 -1					
The North Shore						57 3															
Clarke City New Bansswice-	,711	10	-4			J. 3	_														
Chatham Dalhouse Prederiction Frederict in (Dy Unitin Moneton  Point Lepreaux		5															1				1
St. John St. Stephen Sussex															1 .		i i	). 21			t
Williamsburg						0.1.0		1			1 .	-	20				\$1	2.1			

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, AUGUST, 1913.

\*Stations not firmished with Registering Thermometers,

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		Ti de		Темреволен		Pricing stion	
SIABON	Latitude	don abuse	M. in Defference form a critical	Translations (1975)	Fowest Hat*	Difference form	Pays with old or more   No. of fur days   No. of Auroras   No. of thunderstorms   No. of thunderstorms
N (A.S. 500 -	0 / 5						
A Learner A Jagoniah Hallaw Kwate He for (2) 2	10 18 11 01 11 04 63 10 2	1)	ol: -05 F15 S11	3 82 6 11 8 87 9 10 1 81 0 16 1 86 0 16 1 85 0 18	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	11 20 1 5 8 23 2 1 10 21 5 4 27 5
Moragon a your George Currebond Currebond Cathle 18 and 1 Mora Society Sable 18 and 1 Mora Society Sattle (Cathle Mora Society Cathle 18 and 1 Mora Society	45 23 64 14 45 39 61 23 45 58 59 40 13 57 60 6 45 10 66 13 45 22 63 18	41 45 25 25	62 9 = 1 62 5 = 1 0 8 3 64 3 = 6 8 3		7 0 22-27 20 6 53 0 2 12 10 4 41 5 1-22 19 6 54 0 21 25 3	1 51 -2 25 0 55 1 42 -1 57 0 31 2 10 -1 24 9 81	5 26
Antone (1) Vantone (1) Vantone (1) Vantone (2) Officiale Afficiale Afficiale Afficiale Afficiale	45 15 61 8 41 59 64 6 45 7 64 3 13 50 65 2	20 8 Op 8		21 67 0 × 9 11 85 5 17 14 85 3 16	54 0 28 — 17 5 4 24 3 10 7 21 20 7 11 1 21 15 3	1 45 — 0 64 1 45 —2 11 0 31 0 62 —3 03 0 19	6 25 4 9 22 7 7 24 1 1 9 22 2 7
Chald drates Chald drates Chald to the Chald	16 11 61 1 56 11 63 7 16 25 63 1	7.0		(7 - 81 - 6 - 15 - 16 - 16 - 79 - 6 - 17	11 P 21 16 1 11 0 21 18 0 41 0 15 11 7	2 65 -0 94 0 76 5 89 - 0 79 5 04 -0 17 0 85	\$ 23 3 10 21 2 5 26
*Amount from .  Butto Kome contrary  Chaps Kome contrary  Portary Response  St. George Contrary  St. January	51 28 55 5 47 0 55 55 51 38 55 52 44 43 51 17 55 42 57 15 47 35 57 1 47 34 52 12	37	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5 71 0 7 29 69,0 2 31 83 0 30-71 5 69 0 16 22 70,4 5 10 79 0 51	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	13 18 3 12 19 11 3 28 1 3 12 19 1 5 9 22 2 3 15 16 1 1
North West Uncer bermuny— Prospect	32 17 64 41	151	77 4   2 1 2	23 81 2 2	07 1 15 10 7	8 86 + 2,55 2 72	11. 12 6

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, $\alpha$ , DURING AUGUST, 1913.

		- D	_			× 2000	l'ALL.			
STATIONS.	Amount in inches.	No of Days .01 or over.	AIN FAI No. of Fair Days.	Heaviest Fall in Month	Date.	Amount in inches		I ALL. He iviest I all in Month	l/ate	REMARKS
BRITISH COLUMBIA										
Alkali Luke	i .7	11	20 22	0.57	15					
Alkali Inke Anns (thos Point) Armstring	0.72		22							
	3 12	5	29	0 61 2 r3	15					
Coquitlam Camboo K ad No 141 Denman's Island	10.55	5	24 26	11	15					
Goldstream Lake	1 57	1	25	11 0.55 0.53 1.50	Ĭ.					
Pergus n Fergus n Goldstream Lake Hydradie Hydradie Iloraby Island Invermere	4 41 ( 19 1 84	11	19 10	0.32	10					
Invermere Lordan River Jordan River (Bear Cieck Lattle Qualicum(Fr,Cr,V I Lamb)	0.41			31 5.52 5.63	:7					
Lattle Qualicum(Fr,Cr,V 1 Lumby	1 II 4 17	:	26 28 21	0.65	10					
New Harbour. Rock Creek Snawman L. de. Wycline	4 17	- II	- 1	0 33 1 51 6 27	1)					
ALBERTA-										
Bardo	3 76 1 51		2.2 2.3	o 85 1 42	17					
Brsmark Bruegerheim Brittern Lake	1 10		18	1 16						
Brooks	# 123 2 123 1 228 1 258 1 256 1 256 1 256	11 5	20	0.83	1					
Coleman	1.55	6	23	1 4.1	4					
Caldwell Claresholm	1 7 1 1 56	11	21 24	0 05 0 75 0 75	à					
Claresholm		6 17	24 25 25 11	0.54	15 51 13					
Grassy Luke	- 55 4 25 1 54	1	27 25	0 70 0 67 1 25 1 38	12					
Dunstable (Five Lakes Grassy Lake Jumping Pound Loch Sloy Lyndon Lincham	- 09		1	1.5						
Lincham La Pearl Lethbridge	1.11	4	2.1	11 55	1					
Lethbridge Macleod	3 28 1.56 2.77	10 1	21	0 45 1 45 1 52	4					
Macleod	276 275 121	1 /	21 23	1 62	9					
Mannville (Roycroft Tienche Nateby	1 21	10	21	1 35	31					
Nateby Nanton Okotoky Pekisko Ponoka		4								
Seven rersons	5 21 5 59 2 54	9	22 25 26	1.10 1.03 1.40	31 13 15					
Writing-on-Stone (Coutri)										
Waterton Mills	2 18		26	1 69	*4					
SASKATCHEWAN-										
Battle Creek Gull Lake Gull Lake (Tks Swift Cur The Meadows (Battle Ck.). Willow Creek (Maple Cr.).	2.61	9	22	0 66 1 27 0 86	18					
The Meadows (Battle Ch.).	2.47	6	23		15					
Wapashoe	1.04	,	23	0.27	is					
Manitoba—										
Contemporal	2 6	7	24	1 01	18					
Deloraine Norquay (Swan Lake) Rapid City Rose Bank	1 47 4 87		21 23	1.51 2.77	1.21					
Rose Bank	1.57	`	23	2 , ,	11					
Ontario ~										
Brantford(Bow Park 1 cm. Deer Park	# _1 1 50		21	1.16	- 1					
Dutton Emsdale	1.17		15	1150						
Dutton. Emsdale Fort Frances Georgetown. Grantham	2 51 5 14		124	1 97 1 97 0 51						
Grantnam Grand Valley	3 14		2							
Georgetown Grand Valley Hillier MacCee Niagata Lalls Naigen	: 16	1	23 11 21	1.43						
Nipicon Princeton Point Clark Rentran		1		1 10 1 05 2 77 1 35						
Point Clark Rentrew Sydenham	-		-	0.71						
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Strathroy Watford Westpor Westminster	1	1								
Wooler		,								
Wesley	1 .	.)								

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, Ac., DURING AUGUST, 1913.

STATIONS		L		11	SNOW					
	Amount in inches.	No of Days 01 or oxer	No of Fair Days	Heaviest Fall in Month	Date	Amount in inches	No. of	Heaviest Fall in Month	Date	REMARKS
Эп <b>в</b> вес—										
	3 94	12	. 19	1 03	17-22					
Lucerne Manouan Crossing Nie det Perkins Mills Quinze Dam Trimskanning Ville Marie	4 15 1 60 3 36 3 84 5 68 2 97	21 5 5 11 10	10 25 26 26 26 20 21	0 68 0 62 2 35 1 55 1 61 0 52	8 . 2 23 22 23 23 26	*	1	*		
New Brunswick— Point Escuminae .	2 93	8	23	0.72	9					
Nora Scotta-				ı						
Big Mushamush Lake (Ma- hone) Kentville Milton Mushamush River (Mahone) Nappan South Alton	1 81 1 20 3 76	9 3 8	22 28 23	0 50 0 80 1 06	11 23  5					

## PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF AUGUST, 1913,

a Barometer not reduced to sea level

	-			20.7	_	Рв	E480	RE.	_	humidity.	cloud	completely			D	IRECT	10N (	// gc	ND F	ROM				ELOCI W18	TY OF
STATION		Latitude N.	Longinude W	Devation above s	Mean reduced.	Harbons	III BROSE	Lowest.	Range.	Menn relative hun	Mean amount of c	No of days compelor	ż	NE	E.	77	7.	× W.		N. W.	G.	Total number of of observations	Mean miles per hour.	Meximum	Date and direction.
BRITISH COLUMBIA— Atim Barkervillo Kaniloops Atim Prince Rupert Triangle Island aTranquille Vancouver Victoria	. 5 - 5( - 5) - 5( - 5)	3 35 3 2 3 42 9 10 4 18 0 52	0 133 38 121 37 120 21 123 37 130 18 120 21 120 21 123 4 123 11	4180 1245 125 170 680	20 92 30 02 30 12 28 72 30 04	30 30 30 30 20 20	41 2 25 2 15 2 29 2 42 2 05 2 2,7	J 70   9 58   9 72   J 66   9 84   5 40	0 71 0 67 0 63 0 63 0 65 0 65	82 57 68 80 93 70 78	6 4 2 5 4 5	8 8 17 12	2 0 2 2 0 1 4 0	1 7 1 3 6	11	12	25 3 12 0 13 4 1 2	9236605	1 2 2 2 10 15 9	27 27	7 45 11 23 27 2 25 12 11	62 62 62 62 62 62 62 62	8 7 4 7  11 1	30	22 S
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ALBERTA— Banff Calgary. Edmonton Mcdicine Hat	51 53 50	33	115 34 114 2 113 30 110 37	4542 3589 2158 2161	30 00 20 02 29 97 29 90	30 3	11 25	1 35 1	1.93	69 - 81 63	4 4 5 4	3	2 1 2 4	5 5 4 1	1 11 4 4	10	1 1 3	21 3 4 17	15	16 23 16 1	20 1   7 14	62 62 62 62	3 3	23	5NW
SASKATCHEWAN— Battleford	52 50 53 50 50	41 21 10 30 20,	108 20 195 35 196 0 193 47 197 45	1620 1750 1432 2115 2439	29, 94 23, 90 23, 83 23, 85 23, 95 29, 93	30 2 30 2 30,1 30 3	29 29 13 23 16 29 18 24 17 23	44-0 32-0 45-0 36-1 1-38-0	50 91 81 62 99	84 74 76 80 70	4 3 5 4	5 2 9 0	1 6 5 2	1) 5 4 2	7 16 5 14 2	11	6 1 8 4 12	3 7 5 9 12	14	7 11 14 11	18 52 12 1 5	62 93 61 62 63	9.6  8.8 10.7	\$11 26	15 SW 27 N W
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QUEBEC-																									25W N.W
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NEW BRUNSWICE— Chath m Frederictos St John	47 45 45	3 65 57 66 17 66	36	184 3	30 00 3 30 02 3 30 01 2	0.44	29	72.0	72	79 76 82	5 4 5	6 3 11	5 5	0 5 2	6 1 0	0 5 3	0 15 39	23 22 26	2 1 2 1	16 16	1	62 93 93	6.7 9.8	21	10W 23S
Sable Island (MStation) Sydney Truro Wolfville	43 46 45	30 60 57 60 10 60 7 64 50 66	10 . 20	25 3 . 35 2	80 64 3 80 11 3 80 03 3 80 03 3 80 03 3	0 38 0 35 0 35 0 42	21 21 21 21	67 0 68 0 1 5 0 0 1 7 7 0 0	70 75 77 72	94 78 —	5 5 5 4 5	5 7 8 11 7	4 2 10 5 4	9 11 4 2 3	0 7 3 0 2	1		16 25 34 28 1	12 21 20 17 6	5 10 12 3 6 5	0 3	62 1 93 13 1 93 62	10 5 7 1 12 7	15 40	305W 21NE 11NG 23.SW
P. E. ISLAND Charlottetown	46	14 53	10	35 3	9 mis	0 42	20 (	69 H 7	75	7.	5	1)		5	()	1	6	2.		9	7	62	6 7	21	248W
NEWFOUNDLAND Burin Fogo Port aux Basques St. George's St. John's	47 47 45 45	0 55 43 54 35 59 27 58 34 52 17 64	10 17 10 31 42	27 2 21 2 125 2	0 05 3 3 99 3 9 99 3 9 99 3	) 30 ) 31 ) 35	29 J 39 J 34 J	57 0 7 57 0 3 54 0 5	3 -1 -2 -2	~ -	6005	14	5 22 3	1	1 17 11 3	3 5	7	24 3 19 26	11	13 17 16 1	9	62 62 . 62 .			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF AUGUST 1913

STATION		N.E.		ECTIC pj	ON O	FWI	ND I	ROM		Lå
STATION	и́. 			Е.						Ιά
			凹	κ	တ်	S.7.	.11	N. V.	C.	Total pumber of Observations
Alberta Athabasca Landing Didsbury Endrang	0	1 2	3 5	0	3 4	4 2	13	7 13	0	31 28
Halkirk (Einsburg) Hillsdown Loveland Maeleod	3 0 2 4	9 2 10 0	1 0 2 0	11 17 6 1	7 2 2 7	5 4 20 3	10 0 4 33	13 32 15 0	0 5 0 14	62 62 62 62
Pakin (Victoria)	7	2	12	15	9	6	29	9	4	93
Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfel (Brownhill) Indrin Head Larchmount (Glenbryan)	1 0 5	1 2 2 6 5 6 7	7 3 5 8 7 11	2 4 8 13 4 1	4 5 3 1 4 9	1 5 4 6 15 10 8	11 6 3 17 2 13	3 2 5 3 16 26 12	2 3 3 2 0 9	31 31 31 62 62 93 62
Moosemin Mucaster (St. Peter's Monastery). Onion Lake Pense (Gatesgarth) Wascen Mantoba—	2 0 0 0	0 2 3 1	3 4 1 2	11 6 10 4	12 1 1 0	8 1 1	11 6 1 17	12 11 11 6	0 0 0	62 31 31 31
Berens River Brandon Hillview Moose Horn Bay Attkensville). Morden Oak Bank. Stony Mondan	0 6 5 12 4 10	9 10 10 4 3 6	7 10 4 3 1	11 8 8 5 7 2	9 6 6 6 6	9 14 1 10 10 4	10 13 7 10 2 15	7 23 11 6 27 3	28 0 10 6 2	81 93 62 62 62 62 62
Ontario Agincourt Alton	1	1	16	14	8	17	12	23	1	93
Alton Beatrice Brinam Clinton Cottain Gravenhurst	4 6 2 17 7	3 4 3 0 2	0 5 6 3	10 8 1 8 2	10 14 8 25 4	5 6 8 5	6 5 13 3	10 6 18 1 7	45 8 0 0 4	93 62 62 62 62 49
North Bruce Ortha Owen Sound Point Clark	5	2	0	3	10	6	4	1	0	31
Port Dover Stoney Creck Uplands	3 0	4 17	7 10	3	1 2	3 25	6 32	7	0	31 93
WesfordQuebec -	1	0	3	4.	0	4	0	7	12	31
Abubi Anticosti, W. Pt Anticosti, Heath Point Bicquet Brome Cape Charle Cape Magdalen Cap Rouge Chicostumi Ckirke City M mouan Crossing. White Shore Lake	19 5 9 3 17 4 2 16 1 2	5 5 4 9 2 1 1 3 11 3	2 4 6 0 1 12 0 0 5 11	3 1 0 0 4 0 4 0 14 1	23 31 6 8 22 2 20 0 1	9 8 22 28 6 9 8 1 4 7	27 20 29 12 34 58 10 0 14 5	5 19 13 3 6 0 33 11 12 12	0 0 4 30 1 7 15 0 31 0	93 93 93 93 93 93 93 91 31 93 41
New Brunswick Dalhousie	0	0	11	1	0	0	16	0	2	30
Moneton Pt. Leprcaux Sussex	6 0	11 2	1 0	2 0	8 0	20 8	16 2	14 6	0 13	78 31
Nova Scotia— Kentville. Parrsboro	1	0		2	3	4	6	13	0	31
Port Hastings Sable Island, E. Pt Truro Whitehead	8 13	 2 4	 0 3	1 4	22 15	28 52	20	3 1	9	93 93

MEAN PROPORTION OF PRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE PAY IN THE MONTH OF AUGUST 1913.

HOURS ENDING

STATION.									1100	. 46.7 4,7.1	DING							
	E E	o a m	6 a m.	7 a.m.	8 a.m	9 a.m.	10 a m	11 a m	Noon,	I p m.	£ 4.5	12 0	12 d p	a di	und 9	- p m.	and s	9 p tm.
Victoria			.02	33	.53	.58	64	74	7.1		7.1					3		
Silmon Arm			1.5	28	56	.50	59	62	0		71			1	31			
Nanatmo			.118	29	.56	.63	64	47	70						6	21		
Vancouver			2.1	51	.57	55	54		64		2			52	7.5	27		
Agassiz				.34	50	61	.65		60	67			- 12	49	26	- 1		
Tranquillo			24	57	.58	6.3	66	67	7.5	75				58	.33	.28		
Summer!and			. 55	.71	.71	.77	7.5	7.2	71	54	58		57	53	43	61		
Kamloops			. 26	47	.54	.55	fiti	.67	76	73	71		62	56	49	24		
Harper's Rench		T	.13	.37	43	4%	50	.61	64	.5%	5n	87	45	37	0.5			
Edmonton			29	47	57	62	. 61	57	57	54	5.4	67	.61	45	46	.21	01	
Lethbridge			42	, 60	.74	7.7	81	52	81	83	4.5	.81	53	.78	.68	56	.08	
Lacombe			.27	. 61	.84	56	85	81	.90	.53	25	.84	.81	.67	58	. 25		
Medicine flat			.17	.64	.73	.78	80	80	. 81	h2	77	81	71	81	67	29		
Fort Dunvegan																		
Fort Vermilion				'														
Battleford			19	.37	. 53	.62	. 65	.73	.71 ,	69	. 66	61	.63	61	54	25		
Indiao Head			.14	.47	.60	62	69	.68	.72	.74	66 -	.64	64	6.5	. 56	11		
Moosejaw		04	.49	.59	.69	.70	.71	.69	.73	. 66	67	.76	.77	74	65	.41	.02	
Scott		.03	.37	.49	.57	.57	.60	65	. 63	.66	54	.59	60	. 53	.52	. 29		
Rosthera		.01	.30	46	51	.51	.63	68	63	.67	65	. 65	67	.61	.57	.39		
Brandon				18	ò6	.62	74	.77	.74	.75	79	. 73	.77	.64	.27	.05		
Winnipeg			. 21	-49	16.	.69	.72	.70	.73	.73	71	67	.70	.66	.65	29		
Hailey bury			. 26	.48	.56	. 58	53	. 63	.67	66	66	63	. 63	.57	. 51	. 39	.04	
Woodstock			08	40	63	. 65	65	70	68	70	73	72	.71	.67	43	04		
Liudsay			,	.12	. 53	_66	67	. 66	68	67	60	71 -	72	.62	36			
Barrie			.0a	. 49	. 65	.72	70	.74	.77	.74	77	74	.71	.64	31			
Toronto		- 1	0.5 .	45	.71	.71	74	.70	69	72	.73	75	76	.74	66	. 33		
Kingston			.1.	17	.57	67 -	.75	.81	.77	.79	71	. fi6	66	66	.56	14 .		
Ottawa			17	16	59	66	72	72	75	74	,74	ti8	69	62	56	25		
Montreal,			17	47	60	.63	65-	69	76	.67	71)	, ti9	63	59	40	04		
Cap Rouge			16	_47	.56	.61	60	55	62	67	67	65	.61	57	48	. 13		
Quebec			0.5	.3ñ	.49	э6	62	66	60	68	.69	63	64	55	43	.07		
Ste. Anne de la Pocatiere		3.3	. 60	.54	.57	.66	+i5	70	65	65	6.5	.66	61	47	.20			
Sherbrooke			16	. 55	63	67	64	61	.68	70	68	69	62	59	30	17		
Fredericton			10	32	.51	.66	81	74	7.5	b5	.71	65	62	52	.50	26	.01	
Charlottetown,			. 20	49	.52	.57	, E0	61	65	65	.66	. 69	65	59	.50	12		
Nappao			02	.36	.49	.52	.59	.66	.70	.72	65	.75	73	63	55	. 55		
Wolfville			24	48	.53	.65	.72	.74	.71	.70	67	. (1.1)	66	58	.50	34		
Kentville			01	.02	52	65	65	74	76	67	69	64	65	59	46	2.2	Т	

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Scott.		-53	- 5					
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Battlelord.		0.5	_	. !				
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Medicine Hat.		á	15		80	=		_
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Lethbridge.		321	13			7		
Edmonton.	_	223	- 50	1	5	50		
Harber's Ranch		178	9	1	38	83		•
Kandoops		5	50	1	50	63		
Summerland.		8	13	- 1	96	23	₫.	3
Tranquille.		257	5	- 1	9.4	7.1		-
Agassiz		273	46		25	=	83	*#
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SUMMARY OF SUNSHINE RECORDS

Thunder recorded:

- 1. Emsdale, Beatrice, Markdale, Cap Rouge, Mistassini, Montr al. Stoneeliffe, Parry Sound, Edmonton, Campsie, Ranfurly, Springdale, Sion.
- 2. Kakabeka Falls, Mistassini, Sussex, Kentville, Fredericton, St. John, Wolfville, Rock Creek, Greenwood, Grand Forks, Okanagan Mission, Nicola, Nelson, Keremeos, Hydraulie, Hope, Hedley, Salmon Arm, Princeton, Tappen, Coldstream Ranch, Duck Lake Ranch, Monte Creek, Armstrong, Perry Siding, Bittern Lake, Dunstable, Pekisko, Campsic, Fauquier.
- 3. Rapid City, Cartwright, Westminster, Westport, Birnam, Brantford, Kingston, Qu'Appelle, Crescent Lake, Alkali Lake, Princeton, Chilliwack, Chilectin, Crawford Bay, Pemberton Meadows, Okanagan Mission, Nicola, Nakusp, Keremeos, Hope, Salmon Arm, Summerland, Medicine Hat, Ninga, Brazean, Beaver Lodge, Sion, Oliver.
- 4. Hillview, Sydney, Minnedosa, The Meadows, Lost River, Chileotin, Crawford Bay, Okanagan Mission, Keremeos, Hedley, Salmon Arm, Tappen, Monte Creek, Armstrong, Perry Siding, Prince-Albert, Calgary, Cowley, Mountain View, Dunstable, Pekisko, Battle Creek, Beaver Lodge, Clemens, Campsie, Springdale, Sion, Mayeroft, Perbeek, Okotoks, Macleod, Halkirk, Sherbrooke.
- 5. Nipigon, Kakabeka Falls, Port Arthur, Minnedosa, Gull Lake, Alkali Lake, Creston, Crawford Bay, Elko, Keremeos, Salmon Arm, Wilmer, Perry Siding, Medicine Hat, Banif, Beaver Mines, Cowley, Jumping Pound, Okotoks.
- 6. Fredericton, Qu'Appelle, Swift Current, Banff, Ft. Qu'Appelle, Lost River, Rosthern, Muenster, Saskatoon, Quesnelle, Tappen, Edmonton, Banff, Rathmullen, Kenora, Shoal Lake, Clemens, Campsie, Sion, Perbeck, Hillsdown, Hydraulie.
  - 7. Nipigon, Winnipeg. Kindersley, Saskatoon, Prince Albert, Medicing Hat.
- 8. Emsdale, Brantford, Westport, Timiskaming, Ville Marie, Beatrice, Markdale, Birnam, Madoc, Bruce Mines, Lucknow, London, Haileybury, Cochrane, Port Arthur, Manouan Crossing, Mountain View, Rutherglen, Fort St. James.
- 9. Princeton, Emsdale, Brantford, Georgetown, Westminster, Westport, Timiskaming, Agineourt, Stoney Creek, Renfrew, Birnam, Montagne, Fredericton, Quebec, London, Stoneeliffe, Kingston, Toronto, Port Stanley, Port Arthur, Wallaceburg, Port Dover, Orillia, Brantford, Clinton, Lucknow, Paris, Almonte, Cap Ronge, Shawinigan Falls, Lake Edward, Mistassini, Woodstock, Clarke City, Springdale, Sherbrooke.
- 10. Princeton, Georgetown, Westport, Agincourt, Birnam, Wallaceburg, Port Dover, Clinton, Lucknow, Wexford, St. Stephens, Ottawa, London, Toronto, Port Stanley, Shoal Lake, Goderich, Hydraulic.
- 11. Niagara Falis, Edmonton, Saskatoon, Alkali Lake, Nakusp, Bittern Lake, Shoal Lake, Beaver Lodge, Ranfurly, Springdale, Halkirk.
- 12. Cartwright, Invermere, Hillview, Almasippi, Swift Current, Chaplin, Crescent Lake, Muenster, St. Walburg, Rock Creek, Nakusp, Chileotin, Crawford Bay, Elko, N Ison, Wilmer, Banff, Jumping Pound, Ranfurly, Peace River Crossing, Halkirk.
- 13. Hillview, Cedars, Montreal, St. Walburg, Yellow Grass, Rock Creek, Chileotin, Elko, Tappen, Mayeroft, Clemens, Maeleod.
- 14. Rapid City, Hillview, Brandon, Aitkensville, Oakbank, Morden, Treherne, Almasippi, Heron Bay, Winnipeg, Minnedosa, Moose Jaw, Qu'Appelle, Swift Current, Chaplin, Crescent Lake, Gatesgarth, Lost River, Saskatoon, Yellow Grass, Indian Head, Wilmer, Edmonton, Medicine Hat, Banff, Kenora, Shoal Lake, Ranfurly, Springdale, Sion, Oliver, Perbeck, Hillsdown, Halkirk, Fort St. James, Divide.
- 15. Norquay, Chapleau, Abitibi, Mistassini, Schreiber, Stony Mountain, Cochrane, Port Arthur, Qu'Appelle, Kindersley, The Pas, Shoal Lake, Sion, Hillsdown, Halkirk.
- 16. Emsdale, Brantford, Georgetown, Westport, Agineourt, Renfrew, Bruce Mines, Clinton, Lucknow, Wexford, Kakabeka Falls, Aurora, Peterboro, Toronto, Parry Sound, Gull Lake, Chilliwack, Keremeos, Beaver Mines, Mountain View, Rutherglen, Clarke City, Hydraulie, Fort St. James.
- 17. Brantford, Westport, Perkins Mills, Hillview, Agincourt, Renfrew, Montague, Port Dover, Brantford, Almonte, Mistassini, White Shore Lake, Kingston, Toronto, Swift Current, The Meadows, Rock Creek, Elko, Golden, Okanagan Mission, Nakusp, Salmon Arm, Tappen, Duck Lake Ranch, Armstrong, Perry Siding, Brooks, Cowley, Shoal Lake, Clemens, Brooks, Halkirk,
- 18. Norquay, Rapid City, Hillview, Ottawa, Yarmeuth, Moose Jaw, Qu'Appelle, Chaplin, Crescent Lake, Ft. Qu'Appelle, Gatesgarth, Kindersley, Lest River, Rosthern, Muenster, Saskatoon, Yellow Grass, Chileotin, Medicine Hat, Brooks, Dunstable, Rathmullen, Shoal Lake, Clarke City, Oliver, Hillsdown, Halkirk.

- 19. Norquay, Cartwright, Hillview, Brandon, Aitkensville, Morden, Treherne, Almasippi, Winnipeg, Minnedosa, Qu'Appelle, Crescent Lake, Chilcotin, Edmonton, Shoal Lake, Springdale, Halkirk.
- 20. Norquay, Cartwright, Nipigon, Aitkensville, Morden, Treherne, Almasippi, Winnipeg, Minnedosa, Indian Head, The Pas, Kenora, Shoal Lake.
- 21, Princeton, Emsdale, Birnam, Bruce Min's, Clinton, Lucknow, Paris, Kakabeka Falls, London, Port Stanley, Port Arthur, Manouan Crossing, Shoal Lake.
- 22. Emsdale, Brantford, Deer Park, Georgetown, Wiarton, Agincourt, Beatrice, Markdale, Birnam, Wallaceburg, Orillia, Brantford, Madoe, Clinton, Lucknow, Peterboro, Lindsay, Haileybury, Stoneeliffe, Toronto, Port Stanley, Parry Sound, Cochrane, Banff, Lost River, Coquitlan, Little Qualicum, Chilliwack, Departure Bay, Pemberton Meadows, New Westminster, Hope, Princeton, Ladysmith, Vancouver, Rutherglen, Goderich.
- 23. Bruce Mines, Wexford, Kakabeka Falls, Peterboro, Almonte, Cedars, White River, Port Arthur, North Nicomen, Edmonton, Vermillion, Ranfurly, Springdale.
- 24. Westport, Montague, Madoe, Cedars, Charlottetown, Montreal, Kingsten, Crese.nt Lake, Dunstable, Shoul Lake.
  - 25. Westpart, Quinza Dam, Schreiber, White River, Crawford Bay, Shoal Lake, Sion.
- 26. Emsdale, Brantford, Beatrice, Renfrew, Birnam, Montague, Brantford, Madoc, Bloomfield, Lucknow, Wexford, Peterboro, Montr. al, Lindsay, Halleybury, Kingston, Parry Sound, Lost River, Rosthern, Dunstable, Kenora, Rutherglen, Alix, Campsie, Springdale, Sion, Perbeck, Hillsdown, Halkirk.
- 27. Aitkensville, Treherne, Paris, Kentville, St. John, Yarmouth, Winnipeg, Crescent Lake, Kindersley, Prince Albert, The Pas, Shoal Lake.
- 28. Princeton, Brantford, Georgetown, Niagara Falls, Wiarton, Westminster, Westport, Oakbank, Agincourt, Storey Cr. ek, Birnam, Heron Bay, Port Dover, Brantford, Madoc, Bruce Mines, Bloomfield, Charlottetown, Woodstock, Halifax, Sydney, Schreiber, Truro, London, Toronto, Port Stanley, White River, Port Arthur, Shoal Lake, Rutherglen.
- 29. Westport, Beatrice, Renfrew, Rouville, Montague, Madoc, Norwood, Almonte, White Shore Lake, St. St. Jhens, Kingston, Toronto, Quesnel, Springdale, Hillsdown.
- 30. Aitkensville, Fredericton, St. John, Banff, Brooks, Clarke City, Macleod, Hillsdown, Hamilton, Halkirk, Hydraulic.
- 31. Hillview, Aitkensvilla, Moose Jaw, Qu'Appelle, Crescent Lake, Gatesgarth, Lost River, Saskatoen, Invermere, Wilmer, The Pas, Calgary, Banff, Bittern Lake, Bismark, Cowley, Rathmullen, Shoal Lake, Ranfurly, Springdale, Oliver.

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Aui	roras recorded:
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9.	Beaver Lodge IV.
10.	Haileybury IV, Wascea, Clemens, Ranfurly III, Hillsdown IV, Hairek
11.	Edmonton, Clemens.
12.	Chicoutimi, The Pas.
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#### FORECASTS FOR AUGUST 1913

The forecasts issued by this office at 11 p.m. each night are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of these predictions issued during the month was 1257. These were divided as follows:-

	No.		VERIFI	ED.	
District.	Issued.	No. Fully.	No. Partly.	No. Not.	Per-
Alberta.	82	63	13	6	84 7
Saskatchewan	81	62	- 11	ь	83 3
Manitoba	83	66	11	6	86 1
Lake Superior	120	85	21	14	79.6
Lower Lake Region	125	102	15	8	87.6
Georgian Bay	125	105	8	12	87.2
Ottawa Valley	93	76	. 8	9	86.0
Upper St. Lawrence	92	79	4	9	88 0
Lower St. Lawrence	105	82	9	14	82.4
Gulf	115	84	11	20	77.8
Maritime Provinces West	118	96	18	4	89.0
Maritime Provinces East	118	98	15	5	89.4
Total	1257	998	144	115	85.1

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director.

Meteorological Office, Toronto, Sept. 29th, 1913.



# Monthly Weather Review

VOL. XXXVII.

SEPTEMBER, 1913

No. 9

#### INTRODUCTION

In compiling the present Review, the principal data made use of arc the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### TEMPERATURE.

#### BRITISH COLUMBIA.

The prevailing difference from average temperature was negative and about 1°. Temperature conditions were most nearly normal in the district about the North Thompson River.

The extreme lowest temperature recorded on Vancouver Island and along the Lower Fraser averaged 40° for twenty-two stations. In the Okanagan Valley and the Kootenays, the extreme lowest temperature averaged 31° for twenty-three stations; and along the North Thompson River 32° for nine stations. These lowest temperatures were recorded on the 9th, 19th or 24th in most instances.

In the Kootenays and the Okanagan Valley the highest temperatures at several stations reached or exceeded 80°.

#### WESTERN PROVINCES.

The first eighteen days were warm, maximum temperatures exceeding 80° being recorded on from two to four days during that time. The remainder of the month was much cooler, with sharp night frosts, but on the 29th there was a sudden change to warm weather again, the maximum temperatures on that day exceeding 80° in many parts of the country. The mean temperature for the month was 2° to 4° above normal in Alberta and Saskatchewan, and from 1° to fess than 3° above in Manitoba, but there were local exceptions in Manitoba.

#### ONTARIO.

In the east central counties and in the district between the Upper St. Lawrence and Ottawa Rivers, there were a few stations which showed a mean temperature slightly above average, but throughout Ontario as a whole the month was cooler than normal by from I" to 4.

The month began with temperatures exceeding 80°, but from the 13th to the 24th there was a period of much cooler weather, with sharp night frosts in many sections of the country. During

the last week temperatures became much higher again, but the month ended with frost on the morning of the 30th in the northern sections.

#### QUEBEC.

The first week was the warmest, temperatures of 80 having been recorded on two or three days, but the latter half of the month was quite cool. Mean temperatures were from 1° to 2° below average throughout the province.

#### MARITIME PROVINCES.

Mean temperatures were from 1 to 3° below average. Remarkably high temperatures were recorded on the 2nd, 3rd, and 4th, ranging between 80 and 90° at many stations.

#### PRECIPITATION.

#### BESTISH COLUMBIA.

The rainfall was heavier than average on Vancouver Island, along the North Coast and on the Queen Charlotte Islands, and along the Lower Fraser, except at the month. In parts of Vancouver Island and in the vicinity of Harrison Lake, on the Lower Fraser, it was exceptionally heavy.

At the mouth of the Fraser, on Burrard Inlet, in the Okanagan Valley, and along the Thompson River, less than normal rainfall was registered.

In the West Kootenay the rainfall was about two and a quarter inches, in some cases exceeding three. In the East Kootenay it was about one inch.

#### WESTERN PROVINCES.

In nearly all districts the precipitation was less than normal, and was recorded on from one to sight days in Alberta and Saskatchewan, and from one to eleven days in Manitoba. By far the greatest portion of the whole precipitation was recorded on one day, which was either the 18th or 24th,

#### ONTARIO,

Precipitation was everywhere considerably below normal. In the southern portion of the province it occurred on remarkably few days, at some stations on only two or three days.

#### QUEBEC.

Locally, along the Middle St. Lawrence and in the Northwest districts, the amount of precipitation was slightly in excess of normal; but over the greater area of the province there was a deficiency.

#### MARITIME PROVINCES.

Execution Cane Breton Island, there was a deficiency.

#### HIGH AREAS.

Seven areas of high pressure were charted. Three first appeared on the British Columbian coast line, two in the North Pacific States, and two in the neighborhood of Manitoba.

The general path of the areas was over or to the northward of the Great Lakes, thence either to the Maritime Provinces or the New England States, and thence out to sea. The system which appeared in the North Pacific States on the 9th caused, as it passed over the Peninsula of Ontario on the 14th, the first frost of the season there, which, in some districts, was sufficiently severe to injure tender vegetation.

#### LOW AREAS.

Twelve areas of low pressure were sufficiently defined to allow of their paths being approximately charted. Three first appeared near the Alaskan coast, three on the coast line of Northern British Columbia, one in the interior of British Columbia, one in Northern Alberta, one in the Western States, one on the Texan coast, one off the South Atlantic Coast, and one on the east coasts of

the Maritime Provinces. The general course of the areas was either over or far to the north of the Great Lakes, and, with the exception of several of the systems from the far northwest, we were somewhat energetic as they passed over or in the vicinity of the Western Provinces, they were mostly of feeble intensity, and, as a result, the winds in Canada seldon reached the force of a strong breeze, while only a few local gales were experienced.

#### ATMOSPHERIC PRESSURE.

From the results obtained at the Telegraph Reporting Stations it is apparent that the atmospheric pressure during September was above the normal throughout the greater part of Canada. In some districts in Southern Alberta and Southern Saskatchewan, however, the normal mean value was not attained. Departures from the normal value were in excess of 0.05 of an inch from Manitoba to the Maritime Provinces, and reached 0.10 of an inch in parts of Ontario, Quebec, and New Brunswick.

#### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat, 43° 8' N., Long. 80° 47' W.) on Sept, 4th, 1913.

Instrument—Dines Meteorograph, Beginning of Ascent—1 a.m. G.M.T. Barometer—737 mm.

Temperature = 24.0°C.

Direction of Flight at Beginning—South-west in fresh wind.

Fell—135 km, distant S. 40° E. Maximum Height—17.6 km. Minimum Temperature = --72.5° C.

Acight in km, above S.L.  G.L. 0.3 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.2 4.5 4.8 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 11.9 12.0 13.0 14.0 14.7 15.0 16.0 16.8 17.0 17.6	Pressure in mm.	Temperature in Centi	grade degrees
G.L. 0.3	737	24.0	
G.L. 0.3 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.2 4.5 4.8 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 11.9 12.0 13.0 14.0 14.7 15.0 16.0 16.8	718	22.5	
0.1	677	21 5	20.5
1.5	639	18.0	17.0
2.0	602	16.0	14.0
2.5	567	12.0	10.5
3.0	533	7.0	6.0
3.5	501	4.5	3.5
G.L. 0.3 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.2 4.5 4.8 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 11.9 12.0 13.0 14.7 15.0 16.0 16.8 17.0	470	0.0	- 1.0
G.L. 0.3 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.2 4.5 4.8 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 11.9 12.0 13.0 14.7 15.0 16.0 16.8 17.0	458	- 1 0	
G.L. 0.3 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.2 4.5 4.8 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 11.9 12 0 13.0 14.7 15.0 16.0 16.8 17.0	441	2.5	
4.8	424	- 3,5	- 5.0
5.0	414	4.5	- 5.0
5.5	388	- 8.0	
6.0	363	- 7.0	-10.0
6.5	342	-10.5	-13.5
7.0	319	-14.5	18.5
7.5	299	18 5	-21.0
8.0	278	-22 0	-25.0
8.5	260	-25.5	-28.0
9.0	243	29 5	-31.5
9.5	227	-34 0	-35.5
10.0	212	-37 5	-40.0
11.9	182	-46.9	-49.0
12 0	156	-55.0	56.5
13.0	133	61.5	62.5
14.0	113	-67.5	
14.7	99	72 0	
15.0	94.5	71.5	
16.0	80.0	-71.5	
16.8	70 0	-72.5	
17.0	67.4	-72.0	
	61 0	67.0	

An area of high pressure covered the whole of Oatario and adjoining country, giving moderate northerly to north-easterly winds.

### WINDS, SEPTEMBER, 1913

PROVINCES AND STATIONS.	Total	Greatest Mileage	Greates	t Mileage in	I Hour	Nun	aber of Da	ysof	
	Mileage.	in 24 hours.	Miles	Direction	Date	Gules	Strong Winds	Fresh Winds	GENERAL DIRECTION
BRITISH COLUMBIA.		İ							
AtlinPrince Rupert	6033	454							
Point Garry	4622 3991	523 451	37 37	W	21	1 3	7	9 8	SW.W N.NW
Vancouver	2737	275	17	s	4			4	
ALBERTA.									
Edinonton Calgary	* 3291	252	22	NW	9		3	6	W
BASKAICHEWAN.									
Prince Albert	7125	526	41	SE	21	4	12	7	SE
Swift CurrentQu'Appelle	8509 7695	550 489	30 34	SW NW	10 18	1 2	14	6 9	SW SW
MANITOBA.	1								
The Pas	7261 8006	575 548	31 37	SW SE	10			12	W SE
ONTARIO,									
Port Arthur White River	6110	932	62	NW	21	2	5	12	SE
Cochrane Parry Sound Southampton	\$ 3837 5572	303 350	21 20	W SE	7 20		i I	12 15	S SE
Pelce Island	9621 £ 5131	705 338	37 24	N NW	13	7	10	6 1 i	SW
Guelph Toronto	6820 7922	369 505	29	NW	13		15		SE E
Kingston Stonecliffe Ottnwa	e 6112 2760	433 183	25 15	S NW	7 4			16 4	sw
QUEBEC.									
Montreal. Sherbrooke	8402	427	26	W	26		12	11	S, SW
Father Point	7689 8408	534 574	38 35	NE W	22 26	3 3 7	10 11	13 11	SW W
Anticosti, SW	10310 10287	720 535	42 45	NW	28 13	7 3	12 18	8 7	SE,NW W
NEW BRUNSWICK									
Pt. Escuminac Fredericton	10671 5041	782 362	49 20	NW W	27 14	8	10	10 15	W.M.
St. John Pt. Lepreaux	7679 7692	448 426	27 34	NW	28	2	5	20	S W W
NOVA SCOTIA		1							
Yarmouth	6534	441	30	SE,E	22-23	2	8	11	N
Halifax. Sable Island	7382	443	28	NE	10		10	16	N,W
Fiat Poiat	10909	933	48	NE	9	7	10	5	W
PRINCE EDWARD ISLAND				,					
Charlottetown	4922	339	26	SE	23	,	2	14	NW

<sup>\*27</sup> days record. \$ 22 days record £ 27 days record. c 29 days record.

"Stations not furnished with Registering Thermometers.

	i =						Темре	RATURE			i	PREC	IPITATIO	Ν.	more.				
STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet	Mean	Difference from average.	Yr's Chservat ore	Highest.	Date.	Lowest	Date.	Mean daily range	Amount	Difference from average.	Heaviest fall in morth.	Days with .01 or mo	No. of fair days.	No. of auroras	No. of thunderstorms	
Barth Columbia																			
S. Engeomer Island Alterna Henver Creek) Clavospiot Closse Coviethan (Tzoaladem) Dopartini Day Guille Boy La Visini Day Nominis Boy Nominis Boy Stown Boy St	49 15 49 11 48 25 49 10 49 17 48 50 48 41 45 24	124 49 125 55 123 42 123 37 124 12 123 20 123 44 123 19	300 27 170 125 130 25 85	55 6 54 9 54 1 55 1 6 51 4 50 1 54 2 54 2 54 2 54 6 56 6	- 2 2 + 1 0 0 1 0 1 0 0	18 14 2 1 1 13 2 3 1 3 21	$\begin{array}{c} 79\ 0\\ 70\ 0\\ 68\ 0\\ 73\ 8\\ 72\ 0\\ 71\ 0\\ 71\ 0\\ 72\ 0\\ 72\ 0\\ 71\ 0\\ 71\ 1\\ \end{array}$	24 25 20 12 12 12 11-12 1 12 12 8-26 11 20	33 0 43 0 40 0 35 0 41 3 41 0 39 0 41 8 37 0 41 0 37 0 41 5	122-24 23 21 1.3 6-4 6 23 22-23 10 23 6 6 11-25 19 30	23 7 13,3 13 1 19 4 15 7 15,0 10 0 15 4 18 6 16 2 24 0 18 9 10 8	6 43 9,90 7,77 1 93 2 30 3 84 2 18 2 85 2 08 1 98 3 11 1,95	+3.45 +2.84 	2.11 2.16 1.80 0.64 0.63 1.15 0.99 0.59 0.75 0.75 0.82 0.90	13 14 10 12 13 13 10 13 11 11 10 8	21 17 17 20		2	i
Transorver Island nothers Quitsino Swanson Bay Trangle Island	50 39 50 32 50 37 50 52	128 18 127 40 126 53 129 5	680	52.9	- 0.4	19	70 0	25	40 0	10-25	147	10 69	+4 52	1.51	20 	10	::	::	:
Jones Friese River Ausset Chillianck Hops Index New Westmister North Nicomen Lomberton Harchery Femberton Mecdows Rivsh Stave Falls Steveston Carry Point Vancouse	49 14 49 10 49 23 49 05 49 13 49 12 50 20 49 16 49 21 49 17	122 54 122 2 122 33	52 21 500 330 59 125	56, 5 50, 8 55, 6 57, 1 57, 9 51, 3 56, 1 52, 9 55, 5	- 0 5 - 1.3 + 1 0 - 0 7 + 0 7	11 4 12 26 21 1 4 18	78 0 79 0 77,0 70,0 11.6 78 0 71 0 71 0 71 0	13 12 12-15 12 12 12 12 12 13 17 16	40 0 37 0 40.0 36 0 41 3 42.0 32 0 39 0 34 0 40.8	15-03 19 23-25 24 23-30 23-24 24 24 24 23	20 4 19 2 17 9 17 9 18 9	7 58 6 35 6,77 1 90 3.09 8 50 4 64 5.81 2 47 3 89	-3.05 +4.1i -0.64 +0.83 +3.87 -0.07 -0.43	2.52 2.22 0.40 0.87 2.68 1.19 1.81 0.57	13 13 7 13 11 12 14 11 13	17 17 23 17 19 18 16 19		3	
Urpur France River Bahna Lake Barkerville Chilestri (Big Creek) Fort Genrie Fort St. James (Sturrts Lake) Hydrautie Quesuelle	55 38 53 02 51 40 54 28 52 59		4180 3100 2280	46.7 45.7 46.4 50.6 46.9 51.2 49.0	-1.7 -1.6 -2.8	20 20 2	$\begin{array}{c} 66 & 0 \\ 62 & 0 \\ 72 & 0 \\ 71 & 0 \\ 66.5 \\ 77 & 0 \\ 73.0 \end{array}$	25 12 12 11-12 11-12 12 12	29 0 25 0 24 0 31 0 26.6 31 0 33.0	24 1-23 10 1-23 1 23-24 10-28	28 1	1 20 5 98 0 79 3 50 3.51 2.46 1,51	$\begin{vmatrix} +2.32 \\ -1.45 \\ -1.36 \\ -0.27 \end{vmatrix}$	0.56 0.72 0.64 0.66	6 16 3 16 14 11 8	24 14 27 14 16 19 22		1 1	
O'Acaremen Letter Dack Lobe Rame He bey Heddey (N. kel Plate) Ketemese, Kelewant O kacaran Musior Percenton Roddant Suntmerland Venion (Collatream Rameh	19 85 19 15 49 29 49 29 49 36	119 29 119 35 120 29	1490 1771 1200 1650 1100 1582	55 3 56 6 45,1 58 9 53 9 55,8 51 9 50 6 55 8 55 1	-1 1 -1 1 -1 0	19 19 7	\$7.0 \$7.0 71.6 79.0 82.0 \$1.0 79.0 79.0 79.0	16-17 17 12 13 15 16 12 17 16	34 0 34 0 40 0 52 0 54 0 54 0 54 0 35 0	22 23 10 23 24 26-30 23 20 19	21 9	0 99 0 32 0 45 0 26 0 28 0 38 0 52 1 15 0 16 1 33	-0.36 -0.92 -0.30 -0.06	0 35 0 11 0 10 0 11 0 31 0 40 0 16	5 4 2 3 5 7 6 5 2 7	25 26 28 27 25 23 24 25 28 28 23	2	 1 1 	
First Kontinua Crawford Bay, Craston Grand Forbs, Greenwood, Howser, Kasto, Sakesp, Dant d'Onelle, Wanein Perry, String, Rossbard, Fast Konteaun	19 45 49 2 49 1 49 52 49 29	118 27 118 6 117 0 117 21 117 48	1746 2400 1752 1760 2260 1760	53 0 53 3 55 9 52 9 53 3 51 6 51 2 54 8 53 5 53 5 53 5	-0 5	1 1 10	73 0 79 0 80 0 84 0 72 0 69 0 72 0 73 0 79 5 80 0 93 5	17 16 12 12 4 8 7-12 18 8-16	35 0 50 5 29 0 25 0 34 0 31 5 55 0 50 0 34,6	19 26 24 23 - 24 23 - 24	27 9 52 5 59 4 20 3 21 1 22 1 25 1 32 7 29 3 1J 5	2 56 1 32 1 15 1 54 3 02 3 33 2 89 3 17 1 69 1 77 1,19	+1.40	0.70 0.93	7 4 9 3	23 25 19 22 19 23 26 21 27		2 2  2 1	
Craubrook Elko (Fmirlands) Invarmere Wilmer Thompson River	49 30 49 1 50 30 50 34	115 5 116 2	2694 2650	51.9 56.4 50.6	+ 2.4		80 0 83 0 72,0 77.0	17 13 14-18	24 0 29 0 30 0		23.7	0 51 0 78 1 78 0,90			6 5 4 4	26	::	1   2   2	· · · · · · · · · · · · · · · · · · ·
Arhistonig Asheroft Enderby Harrer's Rauch Kandnens Muste Creek Nicola Jake Salmon Arm Sulmon Arm	50 42	120 29 120 39 110 35 119 35	1245 2120 1152 1350	54 0 54.6 55 4 56.6 53 5 54 3	+ 0 :	1 10 1 21 1 17 8 17 8	77 0 78 0 82 0 81.0 75.0 76 0	12-16 12 27 4-16 13 12 12-27	30 0 32 0 36 0 29 0 32 0 32 0 32 0 36 0	18 9 30 10-24 9 19 24 10-19	25.8 28.7 25.5 30.2 23.6 26.3 29.1 127.6	1.35 0.43 0.48 0.18 0.73 1.31	-0.30 -0.50 -0.20 -0.30	0 0 53 0 28 0 30 0 15 2 0 60 7 0 77 0 69 0 05	9 2 4 2 3 6	21 28 26 28 27 24 24 28		:: 1	4
Tappen Tranquilla Vavente North Columbia River Fauquer Glacier Golden Fee elstuke	. 1 51 14	119 35 117 29	1450 4072 1478	57 4 52.8 52 2 41.0 48 3 53 4	- 2	1 1 1 10 4 12	77 0 74 0 66.0 70 0	9	29,0 31,0 29,0 28,0	23 23 23 24	28 6 34 0 16 9	2 16 8 32 3 25 26	+4 1 +1 8	0 40 0 60 8 2 78 2 1.75	11	19 23 18		3	

## TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, SEPT., $191^{\circ}_{\circ}$

\*Stations not furnished with Registering Thermometers

Control of the contro	-		Ī				ГЕМРИ	RATURI	Б			Pre	TEATIST!	ON	more				-
STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's Observations	Highest.	Date.	I on est.	Date	Mean dady range.	Amount	Difference from average.	Beaviest fall in month.	Pays with 0 1 or mo	No of fair days	No of surorss	No of thanderstorms	No of fogs
BRITISH COLUMBIA-Con.						_											_	-	
North Coast																			
Beila Cools Khtuda River Prince Rupert. Stewart Terrace	52 40 54 18 56 1 54 30	126 54 130 18 130 1 130 1 128 30	150 170 215 545	52 7 53 3 48 9 54 6	- 0 2 	15 	70 0 70 1 60 0 80 0	12 	39 C 4 1 O 54 D 40 O	23 15 1 21 23 25	13.5 8.7 11.3 16.4	8 11 13 74 17 87 3 25	7 4 0	2 \$9 1 54 2 (5 1 18	20 26 23 19	10 			. 1
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Careross	60 11 64 4	134 34 139 29	2171 1200	46 3		7	65 0	8	21 0	. 2	12.4	1 30		0.4.		25			
MACKENZIE - Ft Resolution	61 0	113 0	800																
ALBERTA -																			
N. Suskatchewon River Campsie Coronation Daysland Edmonton Ending: Hafkirk (Emsburg: Lloydminster: Loveland: Loveland: Sion Vermilion Wastina Wetaskiwin	54 8 55 52 53 33 52 0 52 17 52 30 54 0 53 29 53 54 52 58	114 42  112 17  113 30  112 0  112 10  111 59  112 31  111 38  114 15   113 23	2158 2795  2000	48 4 51 7 51 0 52 5 52 0 50 1 53 2 51 8 48 1 52 0 53 1	+ 2 ?	2 1 3 30 3 6 5 8 2 1 1 1	76 5 85 0 80 0 78 0 83 0 81 0 86 0 80 2 72 0 84 0 80 0	26 9 8-28 26 8 8 8 12 26 8 -27	20 4 20 0 17 0 27 0 24 2 22 0 21 0 22 0 20 6 25 0 20 0 20 0	23	11.8 2+3	0 69 0 62 0 50 0 52 0 79 0 65 1 20 0 80 1 -2 0 11 1 25	-1 00 -1 00 	0 52 0 78 0 45 0 14 7 1 52 1 0 15	3 6 6 4 2 5	25 27 1173	8 8 6	1	
The Red Deer Ricer Alix Clemens Delia Didsbury Harmatta Hilladoun Lacombe (Ex Farm Perbeck Red Deer Springdal:	52 24 51 38 51 40 51 45 52 58 52 16	112 25 114 8 114 23 113 29 113 44	3500 2040 2783	52 5 54 5 52 5 49 0 51 6 51 6 51 6 51 6 51 6 51 6 51 6 51	+ 2 0	S 1 11 6 9 6 1	\$2 0 \$6 7 \$0 0 \$7 1 \$7 1 \$7 2 \$7 2 \$7 2	20 c	13 0 2 52 0 22 0 25 1 14 4 7 7	7.2	27.1	0.28 0.31 0.24 0.50 0.13 0.79 0.4,		0 12 0 18 0 17 0 15 0 12 0 14 0 4 0 51	3 2 3 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	44 777		1	1
The Bow River Brooks Calgary Carlston Gleichen High River Lawrence (Parkland) Lethbridge Lethbridge Lethbridge Macked Melleine Macked Melleine Strothmore Strothmore Suffield Sundad	50 054 51 1 40 15 50 5 50 5 40 44 40 4 40 4 50 1 50 5	112 54 113 53 113 26 112 61 112 51 113 25 110 37	2/52 33/4 05/0 29/61 21/28 21/43 23/50	51 7 55 0 62,7 50 0 54 0 60 4 61 5 51 2 60 5	F 2 5	2 29 11 6 1 29 1 29 1 3	84 ( 84 ) 84 ( 85 ) 8 ( 8 )	12 12 19 11 11 11				114 114 115 117 117 118	- C 3	0.14	1 3				
Rocky Mounto : . Banti Brazeau Forest (C. d Sout	51 1 49 4	115 31 114 30	4519 4325	∘≤ 1 11 6	117	1 - i													
Athabasca River																			
Athabasca Landing Lunniord Pembina	04 4: 04 1: 54 1:	113 17 114 19 114 0	1650	713	- 3 1	1:													
Petter Rimr Betwer Loige Dunvegna Fort Vermilion Fort Vermilion Fort Vermilion 2) Frand France Pence River Crassing SpiritRiver	13 2 5 5 5 2 5 1 5 40		1305	45 1 44 9 47 7 50 8		8 10						1 5							

\*Stations not furnished with Registering Thermometers.

							Темрен	ATTRE.				Prec	IPITATIO	N,	more.			9	
STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Ameunt.	Difference from average.	Heaviert fall in month.	Pays with .01 or mo	No. of fair days.	No. of Auroras.	No. of thunderstorms	No. of fogs
Saskatcheway-						- ;					1.								
Qu'Appelle River	0 /	0 /																-	
Broadview Browbild Greniell P.O.). Browbild Greniell P.O.). Browblee Buelhanan Crescent Lakke. Estevan Fort Qu'Appelle Hubbard Drumague. Humb idt. Imporal Humb idt. Happeral Humb idt.	52 25 50 20 50 30 52 4 50 27 51 5 50 39 49 49 51 11 50 26 49 31 61 46 49 21	102 2 105 35 101 37 195 0 105 9 105 0 103 0 103 17 104 14 104 37 104 54 104 9 102 29 106 39 108 49 108 49 108 10	1960 1967 1658 1858 1024 2004 1759 1870 1870 1870 2115 2115 2115 2216 2216 2216 2216 2216	53 9 50 8 54 6 55 2 18 2 53 3 51 1 56 0 95 3 50 5 6-2 54 9 54 9 54 9 54 9 54 9 55 2 56 2 57 2 58 3 59 5 50 5 5	+ 1 9 + 2 0 - 1 6 + 0 9 + 2 4 + 3 0 + 2 4	12  9 13 2 24 2 24 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 4 2 4 2 4 4 4 6 6 6 6 6 6 6 7 6 7 6 7 6 7 6 7 8 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	93 0 93 0 81 4 80 80 80 80 80 80 80 88 0 88 80 88 80 88 80 88 80 88 80 88 80 88 80 88 80 88 80 88 80 80	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	24.0  25.2 30.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 2	22 19 25 11 19 24 19–20 25 20 25 19 25 19 25	30 4	1 23 1.62 0 45 0 81 0 81 0 55 0 60	-0 67 +0.27 -1 22 -0.57 -0.57 -0.59 -0.59 -0.59 -0.10 -0.50 -0	0.60 0.60 0.27 0.55 0.44 0.22 0.40 0.15 0.40 0.21 0.30 0.27 0.30 0.57	5 4 4 6 5 1 4 6 6 7 7 5 5 6	27 29		1	
N. Saskatchewan River Battleford Lloydminster Luseland Oliver Onion Luka, Prince (Moota) St. Walburg Scott (Ex Farm) Wassea.	52 41 53 18 52 5 1 53 52 51 0 51 50 53 6	110 0 109 34 109 59 108 20	1620	55.2 53.8 51.9 53.3 47.8 	+ 3.4	23 8 3 1 6	88 0 80 0 83 0 89 0 70 0 86 0 82 0	4 9 13 4 7 7 4 4-8	22.0 28.0 19.0 20.0 17.0	24 24 24 24 24 24 	28.8 27.7 31.2 33.9 29.6  34.5 31.0	1.07 0.17 0.93 0.59 	-0.19	0.11 0.83 0.34	3 2 2 2 2 2 	28 28 	4	:::::::::::::::::::::::::::::::::::::::	
The Saskutchewan Forks														1					
Chagoness (Star City) Duck Lake Malfort Prince Albert Rosthern Saskatoon	53 10 52 40 52 13	1 106 20 7 104 30 0 106 0 1 105 20	1432 1657	51 3 53 5 50 6 52 1	+ 3 6 + 2 1	4 29 3 15	81 0 84 5 84 3 85 5	1 4 5 5	25 0 29 0 29 7 30 2	21-22 21 10 20	26.9 27.8 24.9 26.2	0,96 2 53 2 89 1 69	+1.09	1 48	6 6 8 5		:: 'i	:: :: 1	:
Lower Suskatchewun River		5 102 16																	
Cumberland House Lost River	53 5 53 1			49.9		3	80.0	5-6	24.0	21	26. t	1.54	-	0.48	7	23	::	2	1:
Mantrona— Qui Appelle and Assini- hooine Rivers. Baissevain. Brandon Catherty Carman Cypress River Hillview. Minnedoss Ninette Ninga Norquoy. Lier-on Portage in Prairie Portage in Prairie Portage in Prairie Souris Treberne Virden.	49 5 49 5 49 3 49 5 50 1 49 2 49 1 49 1 49 3 49 5 50 5	1 99 57 2 99 20 1 93 69 3 69 3 5 100 33 5 99 50 4 99 51 1 101 8 4 90 51 1 101 8 1 1	1703 1176 1258 872 1232 1400 1593 1549 1531 1400 1531 1400	55 8 55 4 53 9 53 4 54 2 53 9 53 8 50 0 0 55 8 53 6	+ 6 9 + 0.4 	25 8 31 30 3 1 8 23 8 22 1	94 0 90.0 87 3 86 0 89 0 88 5 84 0 90.0 80 0 79 0 88 0 89 0 89 0	5-6 5-7 5-7 5-7 5-7 5-7 5-7 6-7 1-10 6-4 5-7 5-7 6-4 5-7 6-4 5-7 6-6 6-6 6-6 6-6 6-6 6-6 6-6 6-6 6-6 6	22 0 26 0 23 0 24 0 23 0 12 0 12 0 24 5 23 0 23 5 27 0 27 0	22 22 22 21 21 21 22 21-22 22-23 21 22-23 21-22 21-22 21-22	22 5	0 95 0 57 0 68 0 99 0 88 0 95 1 07 2 46 1 54 1 56 1 33 0 69 2 60 0 50	-0.5·	0.30 0.17 0.37 0.37 0.47 0.63 0.52 1.32 0.55	79 88 511 38 86 77	21 22 25 19 27 22 24 23 25 24	2	2 2 2 2 	
The Reil River Almasippi Morden Oak Bank Stony Mountain Winnipog	49 1 49 1 49 5 50 4 49 5	1 98 6 7 96 42 0 97 14	978 800	55 6 55 1 53 7 54 9 55 7	+ 1.7 - 1 5 + 1 9 + 1 8	18 31	87.0 85.0 81.0 85.0 83.4	9 10 6 6 6	19 0 20.0 21 3 18 0 22 8	22 22 22 22 22	28.6 23.9 22.0 28.9 22.6	1.91 1 19 1.31 1 00 1 27	-1.0	0 65 0 0 92 8 1 00	6	23 24 24 29 3 22	1	1	

\*Stations not furnished with Registering Thermometers.

								Темре	RATURE,				Рик	CIPITAT	ION	ě.				
STATION.	l atitude N		I ongitude W.	Elevation above sca level, m feet	Mean.	Difference from average.	Yr's observations	II ghest	Date.	Lowest	Pate.	Mysh dany rarge	Arsount,	D. Herence from	Bayest fall in neath	I ave with 01 or more.	No offair days	No of autoras	No of thurderstorms	No of four
MANITOBA—Continued							_									_			-	-
Dauphin Lake and River Berens River Dauphin	f2 51	18 8	97 23 160 2	710 957	53 7		3	88 0	6	25 0			1 10			ŧ,	21			
ville)	52		101 15	1112	53 5 52 0	_	3	75 2 81 0	10	21 6	25		1 (*)		1 45	10	2	6	4	
NTARIO— he Lake Superior Districts Rainy Itiver Fort Frances											20-26			_	0 45	4	21	3	1	
Kenorn Shoul Lake Phunder Bay Kakabuka Falls Port Arthur Schreiber	48 48 48	4° 20 27 50	89 26 89 12 87 15	912 644 933	49 1 55 3 50 5 52 4	- 0 1 - 3 1	13 1 5 31 7	70 0 82 5 79 0 78 0 75 8	1 6 1-6 2 2	20 0 32.7 23 0 26 0 23 8	22 23 23	27 1 16 5 25 6 19 5	3 71 3 85 3 44	~1 ·5	5 95 5 95 4 21 2 14	1 9	26 20 21 23	2	1 2 2 2 2	
Bisco Bruce Mines Chapleau Copper Cliff	46		83 55 80 59	595	51 9 56 9 40 9 55 0	+ 0 3	14 5	85-8 81-0 80-0 82-5	2 2 2 1-6 2 1-2	22 5	14 14 14 14 15	18 6 21 0 5 7 17 21 21 21 21	2 12 2 27 2 54	- <u>1</u> 29	1 02 0 72 0 80 1 00	12	18 -1 -1 -2 -2 -2	1	2 3 1 1	
Ilgoma Biseo Bruce Mines Chapleau Copner Cliff Grassett Porcupine Providence Bny Timnine (Standy Falls) White River Vipinsing	15 48	40 35	82 14 85 16	1252	50 9 51 7 55 9 50 7 47 6		3 3 1 23	85 0 75 5 81 0 79 0	1-2 2 2 3 1-6	21 5 15 0	17 15 17-19 27-30 14 30 14	24 S 56 7 24 5 24 5 25 7	2 L. 3 (7 2 4) 2 82 2 69 2 29	-0 57	0 60 0 76 1 70 0 70 0 70	10 9 8 11 12	21 22 25 15	4	1 3	
Haileybury Iroquois Falls Montreal River	49 47 48 47	29 45 8	81 0 79 39 80 40 79 29	946 657 850	50 8 51 0 50 6 46 8	- 0 4 - 0	18 1 3	82 0 81 8 82 9 85 0	1 2 1 2	27 ( 29 2 25 7 15 0	30 30 50 15	22 3 20 1 24 2 36 1	1 SI 2 13 2 64 2 65	1 24 =	0.09 1.07 0.78 7.80	12 8			2	
Ipper Ottawa River Rutherglen (Lako Tnlon) Stonecliff (Rockliffe)	46	15	74 48 78 6	557	53 q 54 g	$\frac{-3.6}{-1.8}$	18 26	5 × 5 >8 0	2 2	25 2 28 0	15-30	16 1 11 -	2 16 2 89	-1 57 0 56	1 70	10	_0 19		1	
Jpper St. Lawrence and Lower Ottawa Rivers Almonte Bloomfield. Hillier Kingston Montague Morrisl urg. North Gower Ottawa Reefrew	45 43 41 45 45	12 59 13 56 8 26 26	76 13 77 21 76 29 75 57 75 43 71 42 79 39	3°0 260 285  2°14 416	55 8 59 1 57 1 58 1 56 1 56 2 59 6 50 4 57 2	$ \begin{array}{r}  -13 \\  +25 \\  -165 \\  +165 \\  +05 \end{array} $	2 15 2 35 4 1 11 25 35	87 2 85 0 82 0 83 0 85 0 85 0 85 0 85 0 85 0	*112 m (3.12 f. (3.15)	25 0 12 1 31 0 35 5 20 1 27 0 27 0 20 5	15 14 15 15 15 15	19 7 20 7 20 7 18 0 1 7 2 7 2 7	3 ×1 1 · 4 0 70 2 · 0 2 · 0 2 · 0 71	1 24 0 16		03 74 7 7 4 7 6			1 1	
Barrie Barrie Barrie Bir Charte (Buskin P O ) Bir Charte (Buskin P O ) Bir Charte (Buskin P O ) Boldwater Collingwood Gravenhurst. Huntsville Midland Markolale Menford. Orilia Owen Sound Parry Sound. Ronville Uphands.	440444444	23 × 55 × 31 + 51 + 51 × 51 + 51 × 51 + 51 × 51 + 51 × 51 + 51 × 51 ×	7) 41 7) 20 7) 20 7) 20 7) 40 8) 2 7) 53 7) 53 7) 53 7) 74 7) 75 7) 75 7) 75	\$30 863 655 600  750  5 6 7 75 1038	57 1 54 8 58 5 57 3 56 2 57 5 57 5 57 5 57 5 57 5 57 5 57 5	2 m 7 0 + m 1 - 1 5 - 2 1 - 1 !	3 : 21 21 4 : 6 1 : 2	80 8 55 0 55 0 55 0 55 0 57 0 57 0 57 0 57 0		23.7 23.0 23.0 13.0 21.0 23.0 23.0	11 11 11 11 11 11 11 11 11 11 11 11 11			100						
ake Huron Counties Birnam Clinton Goderich Lucknow *North Brace *Paint Clark Sonthampton				6 - 1 5 - 7 6 5 6	50 F 50 P 57 P 57 P 57 P 57 P 57 P 57 P 57 P															
Akes St. Clair & Frie, Riagara Peninsula Chetham. Oottain Durten Grimsby. Peles Ishnol Fort Rurwell. Port Dover	50	1 1 10 50 0 40 0 40 0		5×5 5×5 5×7 1°5 5°2 347	61.5 51.5 53.6 57.8 58.1 57.7	1 : 2 : 1 : 2 : 1 : 2 : 1	1 11 41													
Fort Stanley.  Rt Catharines  Storey Creek. Wallneeburg. Welland Windsor.	43 43 49 49 49	11 35 54 20	1 11 1 12 81 4	577 615	55 3 50 6 60 0 62 0	= 4 1 = 1 1 = 0 9	10	54 91 0 53 0 81 0					9			1				

\* Stations not furnished with Registering Thermometers.

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STATION	Latitude N.	Longitude W.	Elevation above sea level in feet.	Mean.	Difference from average.	Yr's Observations	Highest.	Date.	Lowest	Date	Mean daily range.	Amount	Difference from Average.	Heavest fall in month.	Days with 01 or more.	No of fair days.	No. of auroras.	No. of thunderstorms.	No. of fogs.
ONIARIO-Continued-																			
West-Central Counties	0 /	0 /																	
Alton. Brantford. Elora. Guelph Listowel. London. Paris Shellhurne Stratford Woodstock.	13 5: 43 1: 43 4: 43 5: 42 5: 43 1: 43 2: 43 8:	50 21 80 23 80 16 81 13 80 25	1259 750 1274 1050 808 840 1191 980	58 2 56 7 58 8 56 9 59 5 59 6	$\begin{array}{c} -4.0 \\ -1.0 \\ -0.1 \\ -1.1 \\ -1.1 \\ -0.6 \\ -0.9 \\ -0.6 \end{array}$	16 28 11 27 24 45	89 0 90 0 88 0 91 0 89 0 87 0 87 0	2-3 2-7 2-7 2-3 2-7 3	29 0 26 0 29 0 28 0 33 0 31.0 28 0 30.0	13 14 14 13 14 14 14	25 0 25 3 24 1 21.7 26 0 23 7 21 6 21 0	1.39 0.79 1.37 0.68 0.52 1.09 4.17 0.36	-0.86 -1.61 -0.80 -2.35 -2.54 -1.62 -3.97	2.07	6 5 3 4 6	26 24 25 27 26 24 23 26		3	
Lake Ontario Counties																		į	
Agmeentt Agmet Hamilton (Ishawa Foronto Is (Lakeside Home) Uybridge Wexford	43 47 43 57 43 57 43 57 43 47 43 47 43 47	79 24 79 54 78 52 79 24 79 24 79 8	500 856 803 331 350 856 555	59 7 53 6 58.3 59 4 60 5 56 8 56 5	- 0.7 - 3 4 - 1 4	18 6 39 72 9 8 2	88 0 86 0 87 0 85 4 83 0 85 0 83 0	2 2 2 2-3 2-3 2	32 0 28 0 36.0 35 6 39 0 29 0 32 0	14 13 14 14 14 14 14	21 9 21 2 16.7 20 4 19 6 21 0 19 2	0 45 1 33 1.03 0.97 0.63 0.60	-1 00 -2 05 -2 21 -	0.16 0.43 0.54 0.39 5— 0.18 0.24	5 3 6 6 5	23 25 27 24 24 25 25		2 1 1 2 2 2	i
East-Central Counties																			
Bancroft Halburton Kumount Lakehdd Lakehdd Landsay Madoe Norwood Paterboto'. Ursa	45   14 43 44 20 44 30 44 15 44 5	18 28 5 78 38 5 78 15 5 78 45 77 29 78 19	1050 920 830 872 575	53 2 55 8 51.5 57 0 57.6 57 2 58 0 57 6	+ 0 2 - 1 0 - 4 4 - 2 9 + 0 4 - 1 4	22 26 14 30 31 9 1	86 0 90 0 84 0 82 0 83 4 85 0 87.5 87.0	2-11 2 7 8 8 8 8 3	23 0 25 0 21 0 31 0 28 9 27 0 25 0 26 0	14 14 15 14 15 15 15	26 6 29 6 29 2 22 4 22 5 24 1 27 7 26.7	1 92 2.37 1.53 0.54 1.23 1.30 0.63	-1 01 -0.68 -1.43 -2 04 -2 55	0.75 1 01 0 59 0.31 0.60 0.80 0.45	7 8 6 9 6 2 5	23 22 24 21 24 28 25		2  1 3 5 	8
QUEBEC-																			
Middle St. Lawrence Beauceville. Isrome Cap Rouge. Celar Rapids D'Israel Montreal Quebe. Sto. Anno de Bellevue Shawhrishe Shawingan Fulls Shetbrooks	46 1 45 16 46 46 45 36 46 49 45 20 46 3 46 3	72 36 71 18 71 21 73 35 71 13 73 69 72 43	557 678 132 896 187 296	53 2 53 5 54 6 56 2 55 2 55 2 56 1 51 2 51 8 54 6	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1 33 3 1 39 7 2 10 10	87 0 83 0 82 0 85 0 81 2 80.8 86.0 87 0 81.0 84 8	3 2-3 3 3 3 2 2 2 3 3	15 0 24 0 28 2 33 0 33 7 29 2 30 2 27 0 23 0 28 0	2 15 30 30 30  30 29 16-30 30 16	29 7 22 8 23 2 22 7 16 7 18 7 23 9 25 1 22 8	2 06 2 53 4 01 1 83 4 28 3 89 2 79 4 29 2 07	-1 04 -1 089 +0 12 -1 +0 89 -2 06	1 34 1.10 1.95 0.42 1 58 1.15 1.08	8	23 22 21 22 21 20 22 	3	9 1 1  2 	1
Lower St. Lawrence & Gulf  Anticost I. Pt. Anticosti, S.W. Pt.  Bitcosti, W. Pt.  Bitcosti, W. Pt.  Cape Chutte  Cape Muschelen Father Point Ste Anne de In Puratiere	49 6 49 50 48 23 49 6 49 16 48 31 47 20	64 32 68 53 66 45 65 20 68 19	30 30 93 20 65	50 4 47.3 48 4 53 6 49 1 50 5 49 8 53 6	+ 0 4 - 1 5 - 3 7 - 3 8 - 0 9 - 0 1	30 32 32 32 32 31 36 3	59 0 64 0 51 0 78 0 72 0 70 0 73 0 81 8	2-3 17 2 1 7 26 26 7	32 0 28 5 36 0 36 0 36 0 36 0 33 0 33 2	30 30 30 30 30 30 10-11 30	13.1 	3 63 3 55 2 11 2 30 0 81 0 79 2 42 2 81	+1.03 +0.79 -0.61 -0.76 -1.82 -1.81 -0.62	2.75 2.25 0.49 1.50 0.51 0.18 1.46 1.08	3 11 9 4 3 8 10 6	27 19 21 26 27 22 20 24	i :: i	::	5 2 4 2 7 1 1
Lake St. John Chicoutimi. Chicoutimi (2). Lake Edward La Tuque Mistassuni. Roberval	48 25 47 36 47 27 48 5		150 1333 520	53 0 48 7 54 1	- 0.6	34 3	79 4 76 0	1 3 3-8	28 9 27 0	30 30 	29 0 9 4 27.8	2 56 - 4 01	-0.67 	0.86	9 6	21 24	1	::	7
Mistassini	49 5 48 3	72 15 72 48 72 15 72 13	520 360 352	51 6		2	77 5	2	30 0	10-30	21 3	3 04		1 18	11	19	4	3	3
The Northwestern Districts Abitibi Amos Manonan Crossing Temiskaning Weymontachingue (Dam A) White Shore Lake	48 33 47 53 	73 50		52 6 49 3	+ 0 8	::	77.0 79.8  80.0	1-2 1 	29.0 25.0	30 14 	16 1 23 2	2 47 2 82 4 32	+0 06	0.48 0.52  1.06	11 15  12	19 15  18	   3	3 :: :: :	
The North Shore Clarke City	50 10	66 25		48-9		7	75 0	1	27 0	30	19.7	2 82	_	1.20	13	17			3
New Bunsawiek— Chathiam Dalhouse Fredericton (La-Farm Moneton Point Lepreary St. John St. Stephen Sawat Williamsburg	47 3 48 4 15 57 46 9 45 4 45 17 45 11	66 22 66 36 64 45 66 28 66 4 67 16	21 39 164 50 30 70 35 96	55 5 53 7 51 6 53.8 52 6 54 5 54.2 53.7	$\begin{array}{c} -15\\ +07\\ -16\\ -20\\ -20\\ -21\\ -34\\ -1.6 \end{array}$	40 1	83.5 80.0 85.0 87.5 84.0 63.0 70.2 93.0 80.0	3 1 3 3 3, 24 1 3 2 3 3 2 4	31.5 32.0 29.0 30.0 29.0 35.0 56.3 27.0 31.0	30 30 28 28-30 30 30 30 28 28-30	21 2 17 7 22 5 21 9 12 1 26 3 20 0	1 63 1 58 2 15 1 29 2 70 2 45 2 14 3 06 2 53 1 16	-1 50 -1 30 -1 22 -0 19 -1 20 -1 50 -0 10 -0 30	0.68 0.90 0.58 0.72 1.30 0.91 0.84 0.93 1.35 0.73	3 8 7 8 5 8 9	20 27 22 23 22 25 22 27 27		1  3 2 2	2 4 3 7 4 3

\*Stations not furnished with Registering Thermometers.

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			sea				ТЕМЕ	PERAT	TRI.			Pro	CHITAT	108	more			9
STATION	Lucitude	Longitude	Elevation above se level, in feet	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Men daily range	Amount	Difference from	Beavest fall in month	Days with .01 or mo	No of fair days	Jo Jo	No. of thur derstorn
Nova Scotia-																		_
Advocate. Antigonish Halifax Kentville. Kentville (2) Liverpool. Merigonish New Germany Parrsboro' Port Hastings Sable Island (Main Station Station (2) Truro (2) Truro (2) Whitelead Windsor Wolfville. Yarmouth P. E. Island	45 23 44 39 45 3 45 69 43 57 46 10 45 22 45 15 44 59 44 59 44 57 44 59 44 57 43 50	64 19 61 22 59 46 60 6 60 10 63 18 61 8 64 6 64 20	50 88 40 40 45 25 25 35 77 20 90	54 6 56 4 57 2	-2 4 -2 4 -3 -4 -1 8 -1 0 -0 4 -1 3 -1 2 -0 1 -0 5 -1 7	1 3 39 1 1 1 2 20 50 40 36 36 31 14 36	\$1.7 \$1.0 \$1.0 \$2.0 \$2.0 \$2.0 \$0.0 60.0	33 33 33 31  1 2 2 4 4 3 3	26 (4) (29 (6) (35 (6)	16 28-29 25 15 16	18 8 27 9 24 5 16 9 21 7	2 69 2 07 2 35 1 95 2 94 3 67 4 36 2 95 2 16 2 27 2 55 1 29 2 16 2 27 2 55 2 17 2 18 2 18 2 18 2 18 2 18 2 18 2 18 2 18	-1 32 -1 32 	9.55	111 9 14 8 8 4 9 111 110 3 9 10 7	19 21 16 22 22 22 24 19 29 27 21 20 23		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Charlottetown Charlottetown (Exp. Farm) Hamilton Summerside Newfoundland-	46 14 46 14 46 25	63 10 63 7 63 48	38 75	56 5 56 1	-12 -	38 4	79 0 75.0	1 2	36 H 39 U	30 30 	14 6 11 7	3 49 3 98	_0_36	0 65 0 91	12 13	18 17		1
Fogo. Point Riche Port aux Basques St. George'e	51 28 47 0 51 38 49 43 50 42 47 35	56 51 55 10 55 52 54 17 57 25 59 10	27 30 35 27	51.5		3i 29 5	56 0 70 0 68 0	7 12 2	34.0 40.0 34.5		11 2	0 58	-1 64 -	0.22	3	27 16		
St John's LABRADOR— *North West River BERMUDA— Prospect.	47 34  32 17	52 <b>42</b> 64 <b>46</b>	125		+ 0.9 - 1 2	40  23	76 0  85 6	22	33 0 ·	22	15 3		-0 92 	0.52	19	12		. 3

PRECIPITATIO		R	AINFAL	L.				VFALL.		
STATIONS.	Amount in inches.	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month	Date	Amount in inches.	No. of Days.	lieaviest Fall	Date.	REMARK
виная Соливы-						- Inches.	Days.	in Month.		
Alkali Lake									1 1	
Appis (Cauce Point)	2 18	·····	21	0.50					i	
Armstrong	11			0.56	3					
Cognitian	1 4 10	8	22 21	1 11 1 56	3 2					
Cariboo Road No 141 Denman's Island	2.02	7	23				(			
Goldstrann Lake	4 92	6	24	1 31 2 70	27					
Hydraulic Hornby Island	3 45	12 10	18 20	1 17 0 75	13		,			
		9 6	21	1 33	27					
Jordan River Jordan River (Bear Creek)		15	24 15	1 05 1 01	22 3					
Little Ougheum (Fr Cr V 1	0.51	14 8	16 22	1 81 0 75	22					
Nasa Harbour	1 30	11 27	19	0.41	4					
Rock Creek Shawnigan Lake	1 21	4	3 26	1 75 0 52	30					
Sooke Lake	0.90	· · · · <u>· ·</u> · · · ·								
Wycliffe				0.36	28					
BERTA-										
Bardo	0.78	2	20	0.01						
Structure articles	0 28	2 2	28 28	0.61	18					
Rittern Lako	0 46	4	26	0 30						
Beaver Mines	0.79	5	25	0 30 0 57 0 47	18 22					
		7	23	0.47	23					
owiey	0 62	8	22	0.33	-00					
Cowley Caldwell Claresholm Clarinda	0.77	3	27 27	0.58	21 18					
Described (Described)	1 37	5	25	0.49	22					
	0 90	9	28 21	0 20	6-18 18					
Jumping Pound	0 47	3	27	0 33						
Loch Sloy Lyndon	0.96	5			21					
	1 90	3	25 27	0 42	1 22					
Lethbridge	1 12 0 97	6	28	1 03	18					
Material Control of the Control of t	0.66	3	24 27	0 46	18					
Mountain View	0 56 0 99	4 2	26 28	0 21 0 74	22 22			· · · · · · · · · · · · ·		
Runchille (Roveroit Runchill	0.78	2	28	0.74	22 18					
vateby Vanton	1.09		26							
akusko				0 56	21					
onoka even Persons	1 25 0 65	2 3	28 27	0.90	99	A CARAGON AND A				
	0.41	ĭ	29	0 32	17 22					
Vriting-on-Stone (Coutte)										
aterton Mills	2 04	8	22	0.71	23		1	*****	22	
SATCHEWAN-									23	
attle Creek										
ull Lake. ull Lake (Fks Swift Cur.)	0 60	2 3	2S 27	0.34	23				, '	
illow Creek (Monle Cr.)			*1	0.56	40			J		
apashoe	1 19		27	0.76	23					
				V 70	23					
птова—			1							
rtwright	2 58	9	91							
terror (Some Labor)	2 00			1 41	9 .					
diny (Swin Lake) id City e Bank	0.55									
a Bank				0.46						
10 -										
atlord(Bow Park Farm)	1.00									
or Park	1 °0 0 67	7 5	23 ( 25 , i	1.89	3					
	0.35	1	27 . (	1 04 1 05	20 18					
ad de. t Frances	3 69		20 1	15	15					
organowa,	1.74	7 7	23	i ign	17					
and Vaffey				21	4					
ler Cue	2.33									
enra Falls	1.17	4	.76 . ()	45 165	201					
the fit care consists of a constraint	3.44	9	21 2	20	21					
t Clark	1 00	2	25 0	60	17					
Activities and a second	2 15									
Hord	0.33	3	7   11	31	21					
STATE	0.33	3 2	7 0	11						
olos	0.52	3 2	7 0		21 17					
sler							****			
dey !tenwyl rton	1.38	6 2	4 0	41	17					

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING SEPT., 1913.

		R	AINFAL	L.			SNOW	FALL.		
STATIONS	Amount inches.	No. of Days .01 or oxer.		Heaviest Fall in Month	Date	Amount in inches	No. of Days.	Heaviest Fall in Month	Date	REMARKS
Qпевес—							4			
Bark Lake   Riviere Desert) Kipawa Dam	2,50	4	26	1.10	21					
Lucerne	3 18	4	26	1.75	20					
Nic Jet. Perkins Mills Point Comfort. Quinze Dam Timiskaming. Ville Mnrie.	3 10	5 7 4 8	25 23 26 22	1 45 1 30 0 85 1 91	21 22 26 17					
New Brunswick— Point Escuminac	1 24	7	23	0.32	18					
NOVA SCOTIA—										
Big Mushamush Lake (Ma- hone)										
Kentville	1.92	7	23	0.56	11					
Milton Mushamush River (Mahone) Nappan South Alton White Rock	2 70	8	22	0.90	9					

## PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF SEPT., 1913.

a Barometer not reduced to sea level

					Pres	SUR	В,		dity .	rd.	tely			Dire	CTIO	or '	Wine	FRO	M				LOCITY WIND	OF
STATION	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean reduced.	Highest.		Lowest	Range.	Mean relative humidity	n amount	No. of days completely clouded.	z,	N.E.	БÍ	S.E.	92 <u> </u>	S.W.	W.	. X. W.	C. Total number of	observations	Mean miles per hour,	Maximum velocity.	Date and direction from.
Atlin Atlin Barkerville Kamioops O'Ananimo Prince Ropert Triangle Island (Triangle Island Vancouver Victoria )	59 3 53 50 4 49 1 54 1 50 5 50 5	2 120 1 0 123 1 8 130	37  125 18 170 5 680 29	29.9 29.8 29.8 28.7 30.0	5 30 : 5 30 : 5 20 :	29 29 27 29 37 29 15 28 35 29	50 42 18 31 60	0 79 0 85 1 19 0 84 0 78	82 57 85 68 82 79	8 6 5 5 9 S 5 5 5	16, 12, 5, 7, 22, 1, 8, 5,	6 0 6 1 0  4 0 7	1 0 5 2 0 4 5	3 0 13 2 4 2 2 15	16 1 0 17 16  0	26 0 13 0 11 11	1 9 0 4 10 2 5 6	0 1 12 9 3 7 13	3 0 1 5 0	4 49 15 17 14 40 12	60 60 60 60 60 60	9 3		4 S
UEON— Dawson	64	4,139	20 1200																					
ALBERTA— Banif Calgary Edmonton Mcdieme Hat	51 51 53 50	10 115 2 114 33 113 1 110	30 - 2158	29 9 29 9 29 9 29 9	1 30.	34 20 37 20	44,	0 90	69 63 74 62	4 3 4		1 1 5 2	1 1 1 0	0 1 4	12 1 0	2	31 4 15, 16	8 12 11	$^{0}_{19}_{10}$	19: 14: 5: 17:	60 60 60 58	5.1	22	9N <b>W</b>
SASEATCHEWAN— Buttleford Moose Jaw Prince Albert Qu'Appelle Swift Current	52 50 53 50 50	41 108 21 105 10 106 30 103 20 107	20 1620 35 1753 0 1433 47 2113 45 2433	1 29 9 2 29 9 2 24 9 5 29 9 5 29 9	2 30 2 30 1 30 7 30 3 30	37 29 40 2. 35 29 38 29 44 2.	9.35 9.35 9.36 9.33 9.42	1 00 1.35 0 99 1 05 1.02	60 76 72 65	3 3 5 3 3	- 3	1 6 2 1	215223	0 10 2 6 0	11 11 8 10 4	0 2 6 10	8 11 9 11 20	8 7 6	14, 3 8 15	14 33 16 2 4	60 90 60 60	9.9 10.7 11.8	41 34 30	21 SI 18NV 10SW
Manitoba— a Awene (St. Alban's) Minnedosa Le Pas Winnipeg	50 53	42 99 15 99 49 101 53 97	33 1180 50 169 15; 86 7 76	9 30 t 0, 29 f	0 29 12 30 14 30 12 30	49°29 38°2°	) 35   37	1 01	85 81 84		4	1 1 1 1	<sub>2</sub> 1 6	5 3 8	5 11 19	2 6 11	<sub>2</sub> 9 8	3 19 9	11 10 12	29 0 6	60 69 90	10 1 11.1	31 37	10SV 9 SE
ONTARIO— Goehrane. Guelph Huiteybury Kingston London . London . London . London . London . London . London . Kingston London . Lo	41 42 44 45 45 45 47 44 46 43	2º 79 13 76 59 81 20 78 26 75 19 80 27 89 40 81 9 78 40 79 35 55	16 05 30: 68 20 28 13 80 45 87 42 29 0 63 12 64 13 59	7 30 5 30 8 30 2 20 4 30 5 30 4 30 6 00 7 30 9 30 9 30 9 30 9 30 9 30 9 30 9 30 9	12 30 15 30 12 30 12 30 12 30 12 30 12 30 14 30 14 30	61 2 2 3 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5	9 60 9 74 9 74 9 71 9 71 9 63 9 63 9 63 1 63	1 01 0 86 0 95 0 77 0 89 1 02 0 89	81 74 73 71 88 84 70 70 70		5 8 10 10 4 4 6 4 4 7 9 9 9	9 0 77 6 3 0 8 11 4 2 2 3 6 6 1 1	17 7 21 23 23 6 6 6 6 8 8 1	12 11 3 17 14 9 4	6 28 5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	18. 11. 16. 3. 16. 2. 16. 2. 1. 13. 0. 2. 11.	3 21 10 9 10 17 13 7 4 2 0 7	6 0 4 4 3 3 9 7 5 12 4 0 6 7	53 6 6 1 6 5 7 8 8 7 2 4 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 0 0 1 1 1 2 8 5 10 9 1 1 1 0 9 1 1 1 1 1 1 1 1 1 1 1 1	60 90 60 60 90 90 60 60 60 60	7.3 9.5 8 8  7 7 7 5 5	21 25 20 62 15 29 24	7W 17S 20SE 12N 4NW 13N
QUEBRC— Anticosu > W. Pr Father P. nc . Montread . Queb . Sher no ke	18 45	24 63 31 (8 50 14 48 71 32 72	35 3 19 2 35 18 13 29 5 62	0 30 0 0 30 0 5 30 5 30 5 30	12 30 11 30	61.2	9 65 9 61	0 97 0 87 0 91 0 97 10 91	80 80 64 75 67		1 3 5 9 1 4 6 6	12	1 30		27 1 7 9	6 0 12 4 9	2 3 19 30 9	7 32 13 9	22 4 16 30	1 C 1 3 1	90 60 90 90	14.3 11.5 11.9 10.7	42 35 26 38	28 N 26 W 26 W 22 N
New Bionswiet.— Chiefe in	17 15 15	3 65 57 63 17 66	29 2 36 16 4 7	91 30 14 30 10 30	10 00 14 .00	41 9 55 2 50 2	9 69 9 71 9 71	0.51	77		4 3 5 3 5 4	1	1		3 5	1 18	7 9 22	25 34 3	12 15	0 7 6	60 50 90	7 0 10 7	20	14W
Nova Scotty— Habiax Sable Island (MStation Sydney, Truro, Wolfythe Yarnouth	11 13 46 45	29 51 32 6 1 10 7 6 4 56 6 7	30 8 6 2 10 .	8, 30 5, 30 30 5, 70 30	11 30	5 0 41 70 0 58 0 50 1	7 E	0.75	87 74 ——————————————————————————————————		5 7 4 1 17 1 5 5 1 16 5	11	1 11	4 2	4 3 4	4000000	24 19 18 20 10	11 5 12 18 15 6	14 23 27 19 6	0 0 5 8 6	60 50 50 50 60 60	10 3 15 1	28 48 30	10N 9N I (225 23,)
P. E. Island Charlottetown	16	11 64		s 30					54		p. 5		: 5	. 0	3	4	13	6	14	12	60	6.9	20	238
NEWPOUNDLAND Burn. Fogo. Port aux Basques St. George's St. John's BERMUDA Prospect.	47	0.55 43.54 35.51 27.58 34.52 17/04	10 3 17 3 10 2 31 2 42 12 46 15	1 5   30	10 30	50-2	9.50	(a) (a) (1) 00 (1) 00 (1) 00 33	- - 8.1		7 14 5 5	20	ţ i i	 18  2	<sub>0</sub>	. 1 	2 18 3	16 11 4	10 5	 3  0	60 60			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS. DURING THE MONTH OF SEPTEMBER, 1913

				-							
				DIR	ECTIO	S 01	: 77.1	SD 18	ROM		
							- 11		1.0.11		
			ΞŹ.		44		=		=		e e e e e
STATION		Ż.	7.		Ŀ	Ý.	S	=	- Ż.	ن	tal ma ber of Object
											5-03
ALBERTA—											
Athabasca Landing		1	()	\$	1		2	_	ti	0	30
Didsbury		0	0	i	i	ì	-	5	14	- 0	29
Endiana											
Haikirk (Emsburg) Hillsdown		0	1	, 5	10	13	8	7	12	()	(5()
Loveland		1	1	3	7		16	17	26 12	9 ()	(st)
Macleod		2	0	ó	4	-		35	.5	15	60
Pakan (Victoria).											
Ranfurly (Waiter e.a. SASKATCHEWAN-		ñ	3	8	1.1	1	(5	12	22	13	581
Chaplin		1	1		3	6	0	1.1	1	1	30
Crescent Lake		1	2	- 9	4	6	6	8	3	Û	30
Estevan		()	3	.5	4	3	4	- 6	3	2	30
Grenfell (Brownhill)		1	3 5	13	. S 18	7	1.5	21	19	3.0	60 58
Indian Head		4	10	1	12	14	11	5)	21	8	90
Larchmount (Glenbryan)		1	3	0	7	4	1.1	21	1.3	0	60
Muenster (St. Peter's Mona									<u>.</u>		
Onion Lake	SICTY)	4	1 2	1	10	11	12	11	7	() ()	60 30
Pense (Gatesgarth)		۳		4							
Waseca		1	2	J	2	1	4	14	5	()	30
MANITOBA—											
Berens River			3	1		2			9	1	30
Hillyiew		6	8	11	11	()	21	11	22	ó	90
Moose Horn Bay (Aitkensud	e)	11	5	3	7	7	5	5	6	11	60
Morden Oak Bank		13 10	1	3 2	7 5	- S - 13	8	4 6	12	14	60 60
Stony Mountain		10	4	5	2	1.5	.3 S	8	111	17	56
Otony mountainment											
Ontario –								0			
Agincourt		3	4	26	12	3	20	8	1.4	()	90
Beatrice		8	1	1	9	13	4	1	5	48	90
Birnam		4	12	2	- 9	1.1	7	2	9	4	60
Clinton		S	3	1.1	. 7	5)	- 19	3	9)	1	60
Cottam Gravenhurst		7	() (5	7 12	12	19 15	1	14	7	17	60 90
North Bruce		25	- 2	12	.3	34	4	10	0	(1	90
Orillia		4	1	1	- 1	5.9	- 5	3	2	(.)	29
Owen Sound											
Point Clark		3			4	1			3	1	30
Stoney Creek		1	1.4	26	3	0	13	28	ā	0	90
Stoney Creek											
Wexford		0	1	6	()	1	÷	1	3	14	30
OUEBEC-											
		18	.3	3	3	39	4	9	1.1	1	90
Anticosti, W. Pt		17	8	4	0	26	1	10 23	24 24	0	90
Anticosti, Heath Point .		10	9 15	2	1	6 6	9	23 22	12	23	90 90
Bicquet		19	0 0	2	3	11	6	41	1	7	90
Cape Chatte		4	4	3	0	2	2	50	4	21	90
Cape Magdalen		8	1	()	4	17	. 3	6	42 17	9	90
Cap Rouge		6	.5 11	0 3	()	i 1	. 1	13	15	40	90
Cnicouciiii		2	1	7	1	0	3	1	15	0	30
Clarke City		_									
Clarke City											
Clarke City											
Clarke City											
Clarke City		0		10	0	0	()	14	1	4	29
Clarke City. Minouan Crossing. White Shore Lake  New Brunswick— Dalhousie Moncton		0	2	1	2	1	1	7	1 14	- 2	30
Clarke City. Manouan Crossing White Shore Lake  New Brunswick— Dalhousie Moncton Pt. Lepreaux		0 0 12	2 10	$\frac{1}{7}$	2 5				1	0	
Clarke City. Minouan Crossing. White Shore Lake  New Brunswick— Dalhousie Moncton		0	2	1	2	1 2	1.3	7 16	1 14 13	- 2	30 78
Clarke City. Manouan Crossing. White Shore Lake  New Brunswick— Dalhousie Moncton Pt. Lepreaux. Sussey  Nova Scotia—		0 0 12 2	10 3	1	2 5 1	1 2 0	1 13 2	7 16 0	1 14 13 3	0 17	30 - 78 - 29
Clarke City. Manouan Crossing. White Shore Lake.  New Brunswick— Dalhousie. Moncton Pt. Lepreaux. Sussey  Nova Scotia— Kentville.		0 0 12	2 10	$\frac{1}{7}$	2 5	1 2	1.3	7 16	1 14 13	0	30 78
Clarke City. Manouan Crossing White Shore Lake  New Brunswick— Dalhousie Moncton Pt. Lepreaux Sussey  Nova Scotia— Kentville Parisboro		0 0 12 2	10 3	1	2 5 1	1 2 0	1 13 2	7 16 0	1 14 13 3	0 17	30 78 29
Clarke City. Manouan Crossing. White Shore Lake.  New Brunswick— Dalhousie. Moncton. Pt. Lepreaux. Sussex  Nova Scotia— Kentville. Parrsboro. Port Hastings.		0 0 12 2	10 3	1	2 5 1	1 2 0	1 13 2	7 16 0	1 14 13 3	0 17	30 78 29
Clarke City. Manouan Crossing White Shore Lake  New Brunswick— Dalhousie Moncton Pt. Lepreaux Sussey  Nova Scotia— Kentville Parisboro		0 0 12 2	2 10 3	1	2 5 1	1 2 0	1 13 2	7 16 0	1 14 13 3	0 17	30 78 29

## MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF SEPTEMBER 1915.

									Hou	RS EN	DING							
STATION.	4 a.m.	5 a.m.	6 B	7 n.m.	Sam.	9 a.m.	10 a.m.	11 p.m.	Noon.	1 р.ш.	2 p.m.	3 p m.	4 8i	5 p.m.	6 p.m.	7 p.m.	8 p IB	9 p. EB.
Shawaigan Lake				.15	.51	. 64	. 69	. 65	.54	.56	.61	. 63	.23	.44	.20			
/ictoria				.08	.45	.64	.72	.68	. 67	. 64	.62	. წ3	.64	. 62	. 22			1
elmon Arm			.01	.17	.48	.64	.73	.70	.75	.76	.73	.70	.67	. 53	.07	.01		
ineniuno				.07	. 23	. 53	. 59	. 57	.58	. 62	. 62	, 59	. 58	.46	. 07	.02		
aacouver				.13	.35	. 50	.50	. 57	. 54	. 57	.62	. 62	. 63	.47	.28	т	ļ	
gassis				.06	.43	. 63	. 63	.65	. 65	.63	.60	. 56	.50	.32	.04			J
`ranquille			.01	.43	. 65	.68	.66	.70	.73	.67	.73	.72	.62	.52	.21	. 03		
ummeriand				. 45	.73	.77	.78	.76	.77	.78	.76	.74	. 66	.66	.06			
(amloops				.16	.62	. 68	. 66	.74	.73	.71	. 69	.73	.62	31	.04			
Iarper'a Ranch		į		. 10	45	. 58	.54	. 62	. 54	. 49	.48	.52	.62	.27				
dmonton			т	.52	. 54	. 62	.69	.73	. 69	. 65	. 68	. 68	. 62	.54	.16	,01	1	
ethbridge				.21	. 73	.84	.86	.85	. 56	.91	.89	.86	.84	.78	.50	.14		
acombe			.04	.24	. 55	.71	.80	.55	.87	87	.78	.83	.80	.61	.10			
ledicine Hat				.05	.48	. 67	.74	.80	.84	.82	. 52	.82	.72	.48	.05		l	
ort Dunvegan	.,																	
ort Vermilion				.03	. 20	.32	.35	.37	.45	.48	.51	.50	.50	.42	.35	.05		
ettleford			.02	.37	,62	.72	.70	.77	. 76	.77	81	.83	.77	.71	. 59	.23		
adian Head				.13	34	62	. 67	.75	.76	.75	.74	.72	.63	.40	. 14	.01		
looseiaw		l	.01	.30	. 68	. 68	.69	.74	.75	.78	.75	.76	.76	.64	.24			
Scott		.01	.15	.48	. 66	.74	.74	.74	.73	.77	. 82	.77	.69	.41	. 10	,01		1
losthern			02	.21	. 53	.72	.77	.76	83	.74	81	.78	.73	.60	.16			
Braudon	11			.14	.52	.72	.73	.76	.70	.67	66	. 63	. 46	.26	.06			1
Vinnipeg				.07	37	.65	.73	.76	.74	. 70	72	.72	.76	.65	.06			
laileybary		i	.02	.35	.59	.63	.70	.67	. 64	.68	.64	.62	.58	.51	.40	1		
Voodstock				.06	.30	.55	.62	.68	.72	.75	68	.67	67	.53	.09			1
.indsay					. 13	.54	.73	.79	.80	.72	.72	.71	. 66	.55	.04	1		1
Barrie				.21	. 59	.72	.74	.71	.72	.74	76	.70	.71	.58	.16			
Coronto				.18	.57	.73	.70	76	.76	.77	75	.75	.73	72	.42			
Vingston			Т	.12	43	.55	.69	.74	.74	.68	66	. 68	.63	.48	. 13			
)ttawa				31	.59	. 68	73	.78	.75	.72	67	.71	.63	.53	.13	1		
Iontreal			.03	.38	. 64	.69	.78	.78	.77	.75	.70	.66	.59	.59	.14	1		-
ap Rouge				.16	. 4	.64	.73	.70	.75	.76		.69	65	.55	.17			1
Nuebec				. 13	.49	.63	.76	.79	.78	.77	.70	73	.67	.61	.04	1		1
		01	.25				. 62	.61	1			. 72			i			
Ste. Anne de la Pocatiere		ì	i	.39	.49	.58	.62	.74	.64	.76	.74		,	.52	.01			
Sherbrooke	1	1		.28	. 54	.66			.68	.68	.68	.67		1			1	1
redericton				, 15	.44	.50	.55	.62	.66	.64	.69	.63		.53	.35			
Charlottetown				.05	.03	. 53	.61	.64	.67	.65	.54	.57	.54		.15			1.
Nappaa					. 20	.44	,55	.63	.64	. 68	. 67	. 63				1		
Wolfville				.08	.38	.46	.47	.51	. 61	. 58	62	.61	. 54	. 43	.07			

Mentville	157	54	J	ž	9	-
Moltville	191	5	1	2	9	- 64
neddeN	166	3	- 1	25	7	04
Charlottetown	23	76	1	96		63
notsiteber [	192	51	+	64	=	-
Sherbrooke	=======================================	93	1	8	<u>-</u>	0
el ab annt at2	99.7	13	i	93	9	_
Оперес:	2333	56	7	200	तं	-
Сар Воиде.	300	2.6	i	Ž	- ф	-
Leastno K	223	6.5	===	<i>±</i>	6-1	-
.swattO	223	0.9	77	- 26	30	23
Kingston.	196	3	-	. 76		5
Toronto.	170	- 3	À	93	MC.	-
. эіттеЯ	220	č	Ĭ	ž	15	-
.vaebni.I	95	51	+	ŧ -	6	24
Woodstock	8.	- 5	ç.	93	10	E4
Haileybury.	212	92	1	1- B	10	-
Winnipeg.	508	55		5.5	C4	-
Righdon.		20	+	2	č,	6.3
Возгрета.	232	61	-	93	·ō	01
Smit	335	- 3				- 64
Moose Jaw.	535	62		- 6	1	6.3
Indian Head	-003	- 23	+10-	é	. 1	:
Battleford.	361	0.	+ 5:	6.	=	C4
Fort Vermilion	133	9	+	£	=	=
	-					
Fort Dunyegan	ž.	 		- <u>:</u>		:
Medicine Hat.		٠ ۽		98	64	-
edmose.I	- 5	7	1	- 5	_	
I.ethbridge.	85		. !_	- 59	-	
Edmonton	3		- 1		- 81	
Harper's Ranch	150	2,	i	23	=	
Kamloops.	ž	3	1	5.5		
Summerland.	20	63	- 1	20	19	0
Tranquille.	223	35	1	53	=	
.zieeegA	171	Ç	+ 52	2	9	£ +
Vancouver	17.3	3	ı	35	-	61
.omianeN	166	7	1	35	=	***
.mrt nomfe?	209	12	1	5	1	C-1
Victoria.	£	53	+	2	Ξ	-
Shawnigan Jake	17	46	1	35	24	179
SEPT. 1913	Registered duration in hours	Percentage of pos- suble duration	Difference from average	Maximum percent- age in one day	Date of maximum.	Number of days completely cloud-

SUMMARY OF SUNSHINE RECORDS

#### Thunder Recorded-

- 1. Rapid City, Nipigon, Hillview, Almasippi, Norquay, Kakabeka Falls, Bruce Mines, Kenora, Grasett, Abitibi, White River, Winnipeg, Minnedosa.
- 2. Paris, Kakabeka Falls, Iroquois Falls, Grasett, Schreiber, Abitibi, White Shore Lake, Kentville, Stonecliffe, White River, Porth Arthur, Barrie.
- 3. Georgetown, Brantford, Lost River, Agincourt, Aurora, Almonte, Wexford, Madoc, Brome, Pt. Lepreaux, Halkirk, St. Stephen, Alberni, St. John, Montreal, Ottawa, Toronto, Minnedosa, Edmonton, Chilcotin, Sherbrooke.
  - 4. Alberni, Chilliwack, Pemberton Hatchery, Swift Current, Truro.
- Rapid City, Rosthern, Brandon, Morden, Aitkensville, Vavenby, Chilliwack. Dunstable, Springdale.
- Cartwright, Almasippi, Treherne, Norquay, Morden, Oakbank, Aitkensville, Winnipeg, Hills-down, Halkirk.
- Emsdale, Nipigon, Brantford, Norquay, Port Dover, Lucknow, Birnam, Bisco, Clinton, Bruec Mines, Chapleau, Haliburton, Rutherglen, Schreiber, Abitibi, Mistassini, Pt. Lepreaux, White River, Port Arthur, Barrie.
- 8. Westport, Muenster, Lucknow, Big Chuie. Markdale, Cap Rouge, St. Stephen. Liverpool, Windsor, N.S., Halifax, Montreal, Kingston, Parry Sound, Moose Jaw, Swift Current.
- 9. Lost River, Hillview, Brandon, Almasippi, Treherne, Morden, Aitkensville, Shoal Lake, Vavenby, Princeton, Wilmer, Le Pas, Springdale.
  - 10. Westport, Norquay, Winnipeg.
  - 11.
  - 12. Salmon Arm.
- 13. Muenster, Saskatoon, Pt. Lepreaux, Salmon Arm, Vavenby, Hydraulic, Tappen, Pemberton Hatchery, Monte Creek, St. John, Parry Sound, Swift Current.
  - 14. Big Chute.
  - 15.
  - 16. Greenwood, Golden, Perry Siding.
- 17. Georgetown, Birnam, Madoc, Haliburton, Salmon Arm, Nelson, Grand Forks, Okanagan Mission, Wilmer, Nakusp, Jumping Pound, Port Stanley, Banff, Beaver Mines.
  - 18. Rapid City, Fruitlands, Swift Current.
  - Cartwright.
- 20. Deer Park, Georgetown, Brantford, Agincourt, Hamilton, Lucknow, Paris, Wexford, Clinton, Copper Cliff, Bruce Mines, Toronto, Parry Sound, Barrie.
- 21. Salmon Arm, Greenwood, Crawford Bay, Grand Forks, Tappan, Nakusp, Pemberton Hatchery, Keremeos, Salt Spring Island.
  - 22. Madoc, Little Qualicum.
  - 23. Mistassini.
  - 24.
  - 25. Iroquois Falls, Wawaitin Falls, Abitibi
  - 26.
  - 27. Atlin.
  - 28.
  - 29.

#### Auroras Recorded

- 1. Pambrum II, Nitkensville IV, Ranfurly IV.
- 2. Cartwright IV, Aitkensville III. Le Pas, Halkirk, Rammy IV
- 3. S. W. Point Anticosti.
- 4. Mistassini IV.
- 5. Mistassini III.
- Crescent Lake IV, Chaplin IV, Aweme III, Chicoatmi, Hulbert JV, Randrey IV, Sion IV.
- 7. Cartwright IV, Crescent Lake IV, Chaplin IV, Pambrum I, Manuster III, Wasera, Aweece I, Almasippi, Aitkensville II, Bisco II, Montagne, Kenora II, Schreiber IV, Amos, Mistassini IV, Le Pas, Qu'Appelle, Edmonton, Hilsdown III, Halkirk, Ranfurly II, Sion IV.
- 8. Georgetown 111. Waszca, Aitkensville IV. Porcupine, Amos, Okmagan Mission, Quebec, Halkirk, Ranfurly I. Sion IV. Barrie III. Sherbrooke III.
- 9. Muenster IV, Kakabeka Falls IV, Porcupine, White Shore Lake II, Amos, Okanagan Mission, Quebec, Hillsdown III, Halkirk, Ranfurly III, Sion IV, Wetaskiwin IV.
  - 10. Chaplin V. Porcupine, Le Pas, Edmonton, Prince Albert 11.
  - 11. Mistassini IV.
  - 12
  - 13.
  - 14.
  - 15.
  - 16.
  - 17.
  - 18. White Shore Lake III.
  - 19. Porcupine, White Shore Lake III.
  - 20. Sion IV.
  - 21.
  - 22. Aweme III, Treherne III, Kakabeka Falls IV, Halkirk, Ranford, II, Sion IV,
  - 23. Edmonton.
  - 24. Chaplin IV. Muenster IV. Waseca, Cape Magdaleine, Quebec, Hillsdown IV, Halkirk,
  - 25. Edmonton.
  - 26. Qu'Appelle.
  - 27. Waseca, Aitkensville IV, Halkirk, Ranfurly IV.
  - 28. Aitkensville IV.
  - 29.
  - 30. Waseca, Hillsdown III, Halkirk.

#### FORECASTS FOR SEPTEMBER 1913

The forecasts issued by this office at 11 p.m. each night, are for the 24 hours beginning at 8 a.m. the following day; and are published in most morning newspapers.

The number of these predictions issued during the month was 1257. These were divided as follows:

	No.		VERIFI	ED.	
District.	Issued.	No. Fully,	No. Partly.	No. Not.	Per- centage.
Alberta	75	52	14	9	78 7
Saskatchewan	71	4.5	15	11	73 9
Maritoba	81	49	23	9	74,7
Lake Superior	119	84	26	9	81.5
Lower Lake Region	118	98	16	4	89.8
Georgian Bay	116	90	21	5	86.6
Ottawa Valley	94	74	18	2	88.3
Upper St. Lawrence	92	78	12	2	91 3
Lower St. Lawrence	122	89	21	12	81.6
Gulf	121	93	17	11	83.9
Maritime Provinces West	124	90	30	4	84_7
Maritime Provinces East	124	87	32	5	83.1
Total	1257	929	245	83	£3 <b>6</b>

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director.

Meteorological Office, Toronto, Oct. 27th, 1913.



## DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

OCTOBER, 1913

No. 10

#### INTRODUCTION.

In compiling the present Review, the principal data made use of the telegraphic reports of observations received at this office for the purpose of weather forceasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Calef of the Weather Bureau, Washington, D.C.

#### TEMPERATURE.

#### BRITISH COLUMBIA.

The mean temperature on Vancouver Island and along the Lower Freser River was 17: in the Okanagan Valley, 42: in the Kootenays, 40: along the Thompson River, 43: the North Columbia River 38'; and on the north coast and in the Queer Charlotte Islands, 46. The difference from normal temperature was in the majority of instances negative and varied locally between 1 and 3. White frost was recorded on three or four days on Vancouver Island and the Lower Mainland, and heavier frosts more frequently further into the interior.

#### THE WESTERN PROVINCES.

In Alberta the month began with a temperature of 75%, but after the 3rd the weather became much cooler and heavy frosts were recorded on the 14th, at 1 from any 20th until the close of the month. On the last day of the month several stations recorded at the close of about zero. Temperature conditions in 8 skatchewan and Manitoba were very slandar to those which obtained in Alberta, but the range between the extremes was greater, to Figles to 1 pratures on the first of the month having in some instances exceeded 80%, while a some stations of the instances of the month was a few degrees below zero. The mean temperature swere from 2 to 5 helps mornhal in Alberta, from 3 to 9 below in Saskatchewan and from 2 to 7 bers, in Manitoba. The average temperature reported from Southern Alberta was 37% while for the result of according to western previous the mean of the month averaged about 34%.

#### ONTARIO.

The mean temperature for the Lake Superior Bist dets was about 12. For the basic of the Upper St. Lawrence and Lower Ottawa Rivers, 50; for the Georgian Fig. countries, 48, for the partier of the peninsula hordering on Lakes St. Clair and Eric and the Nagada Rev. 52; and for the Lake Ontario counties, 50. The difference from normal temperature was negative in the Lake Superior Districts, but positive over the remainder of the praviace, where beautiged from 1 to 5, the greatest differences occurring along the Ottawa River.

#### QUEBEC.

The temperature on the Middle St. Lawrence averaged 49°, on the Lower St. Lawrence 45°, in the Lake St. John district 46°, and in the north country 42°. These temperatures are greater than normal by about 5° along the St. Lawrence and in the Lake St. John District, and about 2° in the northwestern districts.

#### THE MARITIME PROVINCES.

The month was remarkably warm in the Maritime Provinces, the excess over normal ranging from 6° to 11°.

#### PRECIPITATION.

#### BRITISH COLUMBIA.

Except in the Kootenays (and locally on Vanconver Island and at the mouth of the Fraser River), precipitation was considerably greater than normal. The mean amount on Vancouver Island was five inches, which fell on an average of fourteen days; on the Lower Fraser six and a half inches on fifteen days; along the Upper Fraser two and one-half inches on eleven days; in the Okanagan Valley and the West Kootenay, one and three-quarters on nine days; in the East Kooteney, less than half an inch on four days; along the Thompson River, one and one-half inches on nine days; along the North Columbia River, three and three-quarter inches on ten days; along the north coast and in the Queen Charlotte Islands, eleven inches on twenty-two days.

#### THE WESTERN PROVINCES.

In Alberta the amount of precipitation ranged from little more than a trace to an inch and a quarter. The average amount for the whole province was about half an inch. In Saskatchewan the precipitation averaged one inch along the Qu'Appelle River; somewhat more than half an inch in the basin of the South Saskatchewan River and in the vicinity of the Saskatchewan Forks; while in the basin of the North Saskatchewan River less than a quarter of an inch was recorded. In Manitoba the precipitation was very evenly distributed and averaged nine-tenths of an inch for the whole province.

#### ONTARIO.

The precipitation in Ontario was in excess of the normal, except in the West Central, Lake Ontario counties and the East Central counties. In these districts the average was less than three inches, which is less than normal. In the Lake Huron counties the fall was exceptionally heavy, averaging nearly five inches. In the District of Algoma deficiencies were registered locally.

#### QUEBEC.

Along the Middle and Lower St. Lawrence the precipitation averaged about five inches or about two inches more than normal. In the country north of the river the amount averaged about three and one-quarter inches.

#### THE MARITIME PROVINCES.

In New Brunswick the amount averaged five and one-half inches, in Nova Scotia and Prince Edward Island eight inches. The excess over normal was about three inches in New Brunswick, and between four and five inches in Nova Scotia.

#### HIGH AREAS.

Eleven areas of high pressure were charted. One first appeared in the Yukon Territory, two on the Alaskan coast, one on the South Coast of British Columbia, five in the North Pacific States and two in the neighbourhood of James Bay.

The two latter areas passed to the Maritime Provinces and Newfoundland; of the remaining nine areas, one travelled to the northward of Lake Superior, one over Ontario and down the St. Lawrence Valley, the remainder all moved well to the southward of the Great Lakes. The Yukon area brought the coldest weather of the month, the temperature between the 27th and 28th falling below zero generally, in Saskatchewan, and locally in Manitoba.

#### LOW AREAS.

Thirteen areas of low pressure were charted. Four first appeared in the far northwestern portion of the continent, one on the west coast of Vancouver Island, one in Alberta, two in the Middle Pacific States, three in the Southwestern States, one in the Gulf of Mexico and one near the West India Islands.

The general track of the areas was more to the southward over the continent than for a considerable period, as many as seven of the systems passing either over or to the southward of the Lower Lake Region, while of the remainder five crossed the Upper Lake Region. After leaving the Great Lakes, the depressions traversed Eastern Canada, Labrador and Newfoundland, and thence out to sea. Much unsettled showery weather was experienced, but owing to the fact that but few of the systems were very energetic, gales were only occasionally experienced.

#### ATMOSPHERIC PRESSURE

The mean atmospheric pressure for October, considering the telegraphic reporting stations to be indicative of general conditions, was subnormal in Ontario. Western Quebec, Southern New Brunswick and the mainland of Nova Scotia, while in other parts of Canada the value was in excess of the normal. Subnormal departures were generally from 0.03 to 0.05 of an inch, while the positive differences reached 0.06 of an inch in Cape Breton Island and Northern Alberta, and 0.08 of an inch on the Coast of British Columbia.

#### FREE AIR DATA

#### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43° 8' N., Long. 80° 47' W.) on October 1st, 1913.

Instrument—Dines Meteorograph.
Beginning of Ascent—1 a.m. G.M.T.
Barometer—731 mm.
Temperature=14.0 C.
Direction of flight at Beginning—North, in light

wind.

FeII—100 km, distant S.75°E. Maximum Height—15.1 km, Minimum Temperature=—60.0° C.

Height in km. above S.L.	Pressure in mm.	Temperature in C	entigrade degrees
G.L. = 0.3	731	14	.0
0.5	712	17.5	14.0
1.0	671	15.5	12.0
1.5	631	10.0	8.5
2.0	593	6.5	4.5
2.5	558	2.	5
3.0	523	0.0	- 1.0
3.5	491	<b>—3</b> .0	- 4.5
4.0	461	-6	5
4.5	433	- 8.5	- 9.5
5.0	406	-10.5	-12.5
5.5	378	-15.0	-16.0
6.0	352	-18.5	-19.5
6.5	328	-22.0	-23.0
7.0	306	-26.0	-26.5
7.5	284	-30	0.0
8.0	264	-3-	1.0
8.5	247	-3	7.5
9.0	228	-4	2.0
9.5	212	4	6.0
10.0	198	4	9.5
11.0	169	—5	4.0
12.0	144	5	6.0
13.0	123	_5	5.0
14.0	106	_5	8.5
15.0	89.5	-6	0.0
15.1	88	-6	0.0

184

#### WINDS, OCTOBER, 1913

PROVINCES AND STATIONS	tal	Greatest Mileage	Greates	t Mileige .	o I H ur			s of	
	leage.	in 24 hours	Miles	Direction	Date	٠.		Fre- Winas	GENERAL
British Columbia.									
Atlin Prince Rupert	731.9	50-1							
Victoria	4472	457	35	W				1.1	is as W
Vancouver	b695	531	35			4		7	//
Kamloops									
ALBERTA.									
Edmonton	3766 2675	242 291	18 23	NW NW	13-23-4 2:		2	10	2.M. 2.M.
SASKAICHEWAN.									
Battleford	62:19	690	45	NW	13	1	7	1 +	
Prince Albert Swift Current	* 3760 7512	592	2.3	NW.	14		1		W <
Qu'Appelle	7442	453	-31	NW	14	1		20	//
MANITOBA.		t							
The Pas	7713 8659	681 512	42 35	NW.	14 27	2	12	11	N.M.
Ontario,									
Port Arthur	. 2223 4310	159	13	NE	7				NW
White River	5 1024	319 415	18 29	NW.	12 21		1	5 3	2 / W
Parry Sound	7522	372	25	SW	23			8 .	Z
Pelee Island	5775	714 355	52 30	W S/V	20	7	10	3 17	NW
Guelph	-4521 7993	397 561	35		21	. 3	,	10	Z.B.
Kingston Stonecliffe	7008 330 <b>3</b>	455 196	14	w	21				NE
Ottawa									11
QUESEC.									
Montreal	5050	557	32	NE	26	4	11	11	NE
SherbrookeQuebec	11277	764	53	···NE	20	11		9	NE
Father Point	9783	527	35	W	21	10	11	2	Е
Harrington	***								
NEW BRUNSWICK									
Pt. Escuminac	12079	1010	58	NE	14	9	12	.5	NE'a S
Fredericton	4680 5745	413 702	26 38	sw sw	21 21	4	10	11 8	NW N & SE E
Pt. Lepreaux	9493	534	48	SW	21	7	10	9	Е
NOVA SCOTIA									
Yarmouth	7729	756	42	sw	21	2	7	12	Eas
Halifax	8334	629	39	NE	15	4	7	11	S NE
Sable Island Flat Point	5998 10133	433 735	42	SE	11	8	7	11	SE
Prince Edward Island					1				
Charlottetown	5765	410	30	S	21	1	4	11	NE
Charlottetowa	2103	410	30	13	- 1		,		

<sup>\*</sup> Record for 28 days only. cTemporary exposure, very sheltered \$Record for 15 days only. Record for 25 days only. £Record for 24 days only.

\*Stations not furnished with Registering Thermometers.

								Темре	RATURE				PREC	IPITATIO	N.	more.			ě	
STATION.	Latitude N.		Long:tude W.	Elevation above sea level, in feet.	Меал.	Difference from average.	Ar's Observations	Highest.	Date	Lowest.	Date.	Mean daily range.	Amount	Difference from average.	Heaviest fall in month.	Days with .01 or mc	No. of fair days.	No. of auroras.	No. of thunderstorms	No. of fogs.
BRITISH COLUMBIA-																	_			
S. Vancouver Island Alberin (Boaver Creek). Clayorinot Clayorinot Cowleins (Troubalem). Departure Bay. Universal Vanamino Nanonee Bay. Salt Spring Island Slawnigan Lake. Sooke Victoria	48 48 48	11 25 10 17	124 49 125 55 123 42 123 37 124 12 123 20 123 44 123 19	300 27 33 470 125 130	47 4 47 8 47 8 47 8 46 3 47 7 46 5 47 9 46 4 46 4 48 7	- 3 4 - 3 1	15 14 17 1 1 13 2 4 1 3 21	$\begin{array}{c} 65.0 \\ 63.0 \\ 62.0 \\ 64.2 \\ 64.8 \\ 63.0 \\ 63.0 \\ 62.8 \\ 65.0 \\ 61.0 \\ 62.2 \\ \end{array}$	1-4 1 12 2 11 11 1-11 1-11 1 1 1 2	27.0 31.0 32.0 30.5 29.4 31.4 32.0 31.0 32.0 35.0 30.0 32.0 35.0	4-5 31 29 30 5 30 16-30 29 30 30 30 29 5	15.9 11.6 12.1 14.8 16.0 12.6 13.2 15.8 9.8 13.7 11.8 14.2 14.7 11.2	4.17 8 10 5 40 3.80 2 98 4 13 5.38 3.58 3.58 3.70 3.54 3.70 3.54 3.63	-1 66 -5 65 	0.90 4.91 0.95 1.10 1.02 0.97 1.64 1.25 0.73 1.00 1.13 0.95 2.50 1.06	16 15 11 11 10 12 13 14 11 15 11 12 12 12	15 16 20 20 21 19 18 17 20 16 19 19 19			
N. Vancourer Island Holbetg Quatsino Triangle Island	50	39 32 52	128 18 127 40 129 5	680	47 0 45 1	3 <sub>2</sub>	5 17	62 0 58 0	4-27 2	32 5 33 0	26 31	13.1 11 4	11.70 9.19	+2 02	1.90 1_10	24 25	7 3			
Loner Fraser River Agaserz Chiliwack Hope Ludier New Westminater North Niconiea Pemberton Mendows. Ruskin (Stave Falls) Steveston(Garry Point)	49 49 49 49 50	14 10 25 05 13 12 20 16 21 17	121 31 121 57 121 25 123 4 122 54 122 2 122 33 122 23 123 17 123 6	52 21 800 330 59 125	47.7 47.8 46.3 49.6 47.7 48.7 49.0 42.6 47.7 45.7 47.6	$ \begin{array}{c} -3 & 0 \\ -2 & 4 \\ + 0 & 5 \\ -1 & 7 \\ -1 & 5 \\ -1 & 5 \\ -2 & 5 \\ -1 & 8 \end{array} $	23 11 4 11 26 20 6 2 4 15	66.0 67.0 66.5 64.0 68.0 63.0 62.0 66.0 59.0 60.0	1-3 1 1 3 1 1 2 1-2 2 3 1	30 0 28.0 31.5 29.0 32.0 25.0 22.0 34.0 26.0 33.3	5 5 25 29 19 29 25 39 29–31 29–31	20 9 12.7 12 9 13.3 12 5 13.0 13 9 17 7 12.0 13 6 10.2	8 84 7 84 7 40 3 40 6 34 10 31 3 22 3.79 9.55 4 29 6.19	+3.07 +2.44 -0.75 +0.72 +2.84 -0.99 +0.45	2 70 1.21 1.60 2 26 0.76	23 20 14 8 16 16 7 10 20 16 17	8 10 17 23 15 15 24 21 11 15 14		1 1	
Upper Fraser River Babine Luke. Barkerville Chilcotin (Big Creek). Fort George. Fort St James (Stunts Lake) Hydraulic. Quesnelle.	53 51  54	39 02 40 	126 26 121 35 123 0  124 12	4180 3100  2280	32 3 34 7 35 1 37 1 41 0 39 6	$ \begin{array}{r}  -44 \\  -31 \\  +02 \\  -3.3 \end{array} $	5 25 10 2 2 20 2 18	56 0 56 0 67 0 65 0 70 0 72 0	1 1-23 3 2 1	12.0 11.0 17.0 12.5 21.0 21.0	30 31 25-31 31 31 31 25	13 7 19,5 19 2 17.7 18 5 16 3	4 53 1 23 1.90 1.79 2 80 2.97	+1 65 +0.57 +0 66 +1.80	0.35 0.71 0.83 0.89	19 7 10 11 12 9	21 20	::		
Okanagan Valley Duck Inke Ranch Heilley Heilley (Nickel Plats) Keremeos Kelownat(Okanagan Mission) Penteton Pinneeton Richlands Summerland Vernon (Coldatream Ranch)	49 49 49	3 36  15 29 29  36 14	119 20 120 10 119 29 119 35 120 29 119 40 119 15	1400 1771  1200 1650 1100 1582	42 7 43 7 32 5 44 5 43 1 45 0 39 7 39 6 43 2 42 8	-19 -39 -25	1 8 9 2 14 7 19 1 6 20	78.0 71.0 62.6 69.0 68.0 73.0 74.0 72.0 71.0	1 1 1 1 1 1-16 1 1	24.0 25.0 15.0 27.0 25.0 21.0 13.0 17.0 24.0 23.0	30 29 10-30 30-31	17.5 17.7 14.3 15.6 15.6 18.3 29.4 19.1	1 81 1 67 2 90 1 59 2 27 1 48 1 17 2 76 1 20 1 61	+1 44 -0 38	0.72	12 10 8 11 9 13 8 10 6	21 23 20 22 18 23 21			
West Kootenay Crawford Bay. Creston. Grand Forks. Grand Forks. Grand Forks. Makusp. Nelson Petry Siding. Rossland. Waneta	49 49 49	45 2 1 52 29 6	116 45 118 27 118 6 117 0 117 21 117 48	2000 1746 2400 1752 1760 1700 2260	42 7 41 2 36 8 39 7 43 3 41 1 40 7 42 3 41 8 39 1		2 2 3 2 2 2 2 2 11 9 1	62.0 63.0 70.0 76.0 69.0 60.0 70.0 70.0 70.0 70.0	1-2 1-12 1 1 3 2 1 1 1 1	21.0 21 0 23 0 13 0 22 0 24 0 22 5 24 0 26 0	31 29 31 31 31 27 31	19 8 16 8 24 8 20 0 15 4 13 4 17 4	1 93 0.66 1 80 1 05 1 74 1 61 1 97 2 05 1 39 1 56		0.31	77 77 100 77 133 77 100 99 94	24 18 24 24 21 22 22 22			i
East Kootenay Cranbrook Elko (Fruitlands) Invermere Wilmer Thompson River Armstrong Asheroft	49 50 50	30 1 30 34	115 50 115 8 116 2 116 14	2684 2650 3300	39 5 42.9 38 3 40 6	- 1_6 	4	73 0 73 0 64 0 70 0	1 2 3	9 0 20.0 15 0	30	19 2	0 44 0.45 0 42 2 48	-0.6	0 35 0 22 0 13 1 01	1	23	5		:
Enderly Harper's Ranch Kamloons Monte Creek Nicola Lake Salmon Arm Salmon Arm Tappen Tranquille		32 41 0  42 41 36	119 7 120 29 120 39  119 35  120 29 119 35	1180 1245 2120 1152 1350 1450	43 S 44 7 44 3 44 0 42 5 42 3 42 3 45 1 41 3	- 0 3 - 3 8 - 0 2 - 2 1	21 1 18	72 0 67 0 72 0	1	22.0 21.0 21.0 20.0 21.0 21.0 21.0 23.0 21.0	31 20 30 31 30	14 9 20 7 18 4 16 3 18 6 18 8 17 4	1 11 1 04 1 42 0 90 2 00 1 84 1 75 0 86	+0 5	0 26 0 50 0 50	1	3 23 1 20 1 2 2 2 7 2 3 13 7 2	3		1
Vavenby North Columbia River Facquier Glerier Golden Revelstoke	51 51	14	117 29 118 6 116 5	4072 1476	33 8 37 4	- 3 3 - 3 0 - 0 7	1		1-2 1 1	16 0 12 0	31	10 6	5 78 2 53 3.08	5 +2 1 3 +1 2	1		3 1 2	į.		

\*Stations not furnished with Registering Thermometers

STATION.	No of fogs				٤	ON	IPITATI	PREC			Е	BRATUR	ГЕМРЕ	-							
British Columbia Colo.  North Coast  Solid Cools		No of thunderstorms	No of aurorase	No of fair days	1 or mo		Difference from average.	Amount	Moan dath range	Date	Lowest	Date.	Highest.	Yr's Observations	Difference from average	Mean.	Elevation above sea level, in feet.	Longitude W.			STATION.
Both Code			_	_	_									_							BRITISH COLUMBIA-Con.
Bella Cools																			,		North Coast
Reda Bay	2			5	26		+ 6 32	15 91	9.9	17	36 0		55 :	3	_ 0 8	45 1	150 170 215 545	126 <b>54</b> 130 <b>18</b> 130 1	40 18 1 30	54 56	Prince Rupert
Massett																					-
Atia	. 5			6	$^{25}_{27}$	1 38 1 10	+3 08	10 57 8 59	12.5			2.1 19		5 15	$\overline{}_{11}$			$\begin{array}{ccc} 131 & 7 \\ 132 & 9 \end{array}$			lkeda Bay Massett
Carcoss																					Yukon Boundary
Carcross   60   11   134   34   2171   31 4   - 6   50 0   1   12 0   27   12 5   2 70   - 0   65   8   23	1		4	14	17	0.20	_	1.46	9.4	12	17 0	4	45 (	7	-	32 4	2240	133 38	35	59	
No.   Suskatchewan River	::			23		0 65		2 70	12.5	27	12 0	1	50 0	6		31 4					Carcross
Campsis																					ALBERTA -
## The Red Deer River    Alix	1 7			24 29 27 27 25 24 29 30	4 6 7 2	0 15 0 11 0 34 0 31 0 15 0 40 0 07 0 08	=	0.50 0.21 0.55 0.49 0.24 1.27 0.10 0.08	24 3 23 5 23 0 23 5	15 25 28	11 5 11 4 10 0 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	76 0 75 0 75 0 74 0	30 3 4 4 8 2 1	=	33 0 34 8 33 5	2158 2795  2000	112 17 113 30 112 0 112 10 111 59 111 38 114 15	52 33 0 17  30 29 54	55 53 52 52 52 53 53	Campsie Coronation Daysland Edmonton Edmonton Endiang Lloydminster Lloyeland Ranturly (Waitefield) Sion Vermilion Wastina
Clemes. Delin 51 38 112 25 Didabury. 51 40 114 28 3500 33 8 - 5 2 11 76 0 1 14 0 31 23 3 0 35 - 0 68 0.20 2 29 Harmattau 51 45 114 23 3500 33 8 - 6 78 0 2 2 0 31 29 8 0 31 - 0 20 4 27 Hilbadown 62 14 113 29 2340 35 9 - 9 75 0 1 5 2 30 21 1 0 46 - 0 25 4 21 3 Hilbadown 62 13 114 2783 34 0 - 6 78 0 1 5 2 30 21 1 0 46 - 0 25 4 21 3 Feebbe (Ex. Farm) 62 65 113 44 2783 34 0 - 6 78 0 1 5 2 30 21 1 0 46 - 0 25 4 21 3 Feebbe (Ex. Farm) 62 65 113 44 2783 34 0 - 6 78 0 1 5 2 30 21 1 0 46 - 0 25 4 21 3 Feebbe (Ex. Farm) 62 65 113 44 2783 34 0 - 6 78 0 1 5 2 30 20 20 25 0 92 - 0 37 9 22  The Bow River  Brooks. 50 34 111 54 2 3427 39 7 - 24 49 85.0 3 110 51 25 10 62 - 0 62 1 30 Calgary. 51 2 114 2 3427 39 7 - 24 49 85.0 3 110 51 25 10 62 - 0 62 1 30 Calgary. 50 69 112 54 2052 High River 50 35 113 53 3394 Lawrance (Parkland). 50 35 113 53 3394 Lawrance (Parkland). 50 35 113 53 3394 Lawrance (Parkland). 50 35 113 53 3394 Lawrance (Parkland). 50 35 113 53 3394 Lawrance (Parkland). 50 35 113 53 3394 Lawrance (Parkland). 50 35 113 53 3294 Lawrance (Parkland). 50 35 113 53 3294 Lawrance (Parkland). 50 35 113 53 3294 Lawrance (Parkland). 50 35 113 53 3294 Lawrance (Parkland). 50 35 113 53 3294 Lawrance (Parkland). 50 36 113 29 3509 56 8 - 6 72 0 1 0 0 51 37 2 0 40 0 0 30 2 20 Lundbreck. 30 49 44 113 24 3128 40 6 4 1 17 78 0 2 17 0 30 2 7 0 20 - 113 0 10 5 2 6 Medicine Hat 50 110 37 2143 42 4 3 20 81 0 1 10 0 28 51 25 0 0 10 0 0 10 36 2 6 Suffield. 50 6 112 34 28 4 3 28 4 3 3 15 5 1 9 0 0 0 27 0 43 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0															,						
Brooks	2			28 27 28 30	2 4 4 3	0.20 0.20 0.27 0.43 0.15	-0 6s	0 36 0 31 0 46 0 68 0 15	23 3 29 8 24 1 25 9 24 5	31 31 30 30 30-31	14 0 2 0 8 0 9 7 7 5	1 2 1 1	70.0	11 6 9 6	_	38 2 33 8 35 9 35 6 34 9	3500 2940	112 25 114 8 114 23 113 29	38 40 45 14 58	51 51 51 52 52	Clemens Delin  Didabury  Harmattau  Hillsdown  Lacombe (Ex. Farm)  Perbeck
Calgary 51 2 114 2 3427 39 7 - 2 4 29 \$5.0 3 110 31 271 0 67 + 0 17 0 48 4 27 Glachea 5 6 59 112 \$4 29 \$5.0 3 1110 31 271 0 67 + 0 17 0 48 4 27 Glachea 5 6 50 35 113 \$6 3 394 5 6 8 - 6 72 0 1 0 0 51 3 2 0 40 - 0 30 2 29 Lethbridge (Exp. Farm ) 49 43 112 \$51																					The Bow River
Rocky Mountains  Benff 51 10 115 24 4542 24 4 - 5 0 17 64 1 1 5 2 21 17 0 1,23 +0 09 0 24 14 17				27 29 20 26 26	4 	0 45 0 30 0 24 0 10 0 15		0 40 0 50 0 20 0 41	31 2 25 1 2 7 13 6	31 31 31 30 28-31	11 0 0 0 12 3 17 0 19 0	3 1 2 2 2 1 1 1	\$5.0 72.0 78.2 78.0 81.0	29 6 6 1 17 29	- 4 1	39 7  26 8 39 2 40 6 42 4	2952 3394 3500 3128	114 2 112 54 113 53 113 26 112 51 113 24 110 37	59 35 16 43 44 1	51 50 50 50 49 49	Calgary. Glaichen High River Lawrance (Parkland) Lethbridge (Esp. Farm.) Lumbreck Macleoder Macleoder Okotoks Strathmore. Sundial
Renff 51 10 115 23 4549 31 4 = 5 0 17 64 1 1 5 2 31 17 0 1,23 40 09 0 24 14 17	3			- h		0 (11		0.03		23	12 0	12	58 2	1	-	25 6					Suffield
Renff 51 10 115 24 4542 24 4 5 0 17 04 1 1 5 2 31 17 0 1,23 40 00 0 24 14 17																					Rocky Mountains
Brazeeu Forest (Coal Spur) 49 40 114 30 4225 30 2 = 1 59 0 22 -10 0 27 7 5 = -				17	14	0 24	+0.09	1.23		27	$-10^{-5} \frac{2}{0}$	22	64 I 59 U	17	_5 (	$\frac{34}{30} \frac{4}{2}$	4542 4225	115 34 114 30			Bauff (Coal Spur)
Athabasca River																					Athabasca River
Athabasea Lauding. 54 43 113 17 1650 33 2 - 5 2 19 72 0 1 00 22 1 0 68 -0 06 0 (6 4 .7 Lunniord. 54 33 114 19 Pembina. 54 12 114 0				-7	4	0.10	+0 (a,	0.65			10.3	1	72 0	10	— 5 2 	33 2	1650	113 17 114 19 114 0	33	54 54 54	Athabasea Lauding Lunniord
Peace River																					Peace River
Benver Lodge				29	2	0 25		. 38	26.7	. `	2 (	1	64 0	1	-	31 3		118 35	56 27	55 58	Port Vermilion Fort Vermilion (2)

\*Stations not furnished with Registering Thermometers.

							Темре	RATURI	E.			Pre	CIPITATIO	N.	more.			.8.	
STATION.	Latitude N.	Longitude W.	Elevation above sea level, in feet.	Mean.	Difference from average.	Yr's observations	Highest.	Date.	Lowest.	Date.	Mean daily range.	Ameunt.	Difference from average.	Heaviest fall in month.	Days with .01 or m	No. of fair days	No. of Auroras.	No. of thunderstorms.	No. of fogs
SASKATCHEWAN-	-	-				_								_	-	-	_	_	
Qu'Appelle River	0 /	o ,																	
Brondview Brownhill (Grenfell P.O.). Buchanan Crescent Lake Estevan Fort Qu'Appelle Hubbard (Drumague) Humboldt Imperial Indua Head Kamsuck Moose Jaw Moose Jaw Moose Jaw Moose Jaw Moose Jaw Moose Jaw Moose Jaw Moose Jaw Sternen (Gatesgarth) Qu'Appelle Regna Strongfield Yarlo (Fairfield) Yarlo (Fairfield) Yellow Grass Yorkton.	50 23 50 23 50 59 49 12 51 5 52 12 50 28 50 20 52 25 50 20 50 20 50 30 50 27 51 32 50 30 50	102 33 102 53 102 25 103 4 103 21 105 9 105 23 103 40 105 35 101 37 105 0 105 0 103 47 104 37 102 4 104 9 102 29	1960 1957 1658 1858 1858 1924 1759 1884 1870 2115 1885	33 7 32 4 35 1 35 8 32 3 31 0 31 2 32 1 36 6 31 1 33 9 35 6 33 4 35 6 35 6 35 6 35 6 35 6 35 6 35 6 35 6	- 3 1 - 6 9	19 19 122 6 8 2 24 2 18 12 18 2 16 29 24	\$2 0 70 3 80 0 81 8 66 0 72 0 73 0 75 0 77 0 66 0 72 0 76 0 72 0 76 0 77 0 76 0 77 0 70 0	3 2 14 14 1 12 2 2 2 1-13 1 2 2 2 2 1-13 1 1 4 1 4 1 1 1 4 1 1 1 4 1 1 1 4 1 1 1 4 1 1 1 4 1 1 1 4 1 1 1 1 4 1	-3.0 -5.2 4.0 -0.0 -0.0 -6.0 -6.0 -6.0 -6.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2	28 28-29 27-28 28 28 28 28 28 28 28 28 28 28 28 28 2	20 1 21 8 19 5 23 6 16 1 22 3 19 7 19 2 22 2 22 8 19 7 20 2 23 0 18 0 22 5 23 2 21 3	1 62 1 31 0 74 1 59 1 30 0 56 2 20 0 42 1 31 0 57 0 48 1 04 1 04 1 04 1 05 0 56 0 56 0 56 0 92 1 31 0 57 0 48 1 0 56 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	+0.90 	0 90 0 32 0 60 0 55 0 80 0 56 1 40 0 57 0 70 0 30 0 61 0 70 0 50 0 65 0 40 0 38	7 5 4 1 7 5 1 4 4 4 6 5 6 6 8 9 9 5 6 8 9 8 9 8 9 8 9 8 9 8 8 8 9 8 9 8 9 8	24 23 27 24 26  27 27 27 27 26 26 26 26 26 26 26 26 26 26 26 26 26	3	· · · · · · · · · · · · · · · · · · ·	
S. Saskatchewan River																			
Chaplin East End (Divide) Kolvinhurst (Nashlyn) Kindersley Kintonel Larchmount (Glenbryan) Rathmulten Switt Current	49 31 61 46	106 39 108 49 108 10  109 29 108 57 107 45	3500 2439	33 8  31 0 35 1  33 3 36 2	- 6.9  - - 6.8	28  2 1  4 28	71 0 56.0 73.0 72 0 74 0	1 1 1 1 2	- 4 0 - 0.8 - 4.3 - 3.0	28 28 28 28 28	19.3  19.8 21.6 26.2 23.1	0.82 0.95 0.65 0.20 0.35	0.12 	0 25 0 70 0 35 0 16 0 24	7  5 2  3 4	24 26 29 28 27			
N. Saskatchewan River																			
Anglia Battleford Luseland Onion Lake Prince (Meota) St Walburg Scott (Ex. Farm) Waseca	62 41 52 5 53 52 51 0 51 59 53 6	108 20 109 34 109 59 108 20 109 30 109 29	1620	33 8 37 1 33 6 32 8 	-3 s	1 23 3 6 6 2 3 6	83 0 76 0 73 0 78 0 72 0 72 0 72 0	1 1 1 1 1 1	-10.0 -3.0 -3.0 0.0 -5.4 -4.0	28 28 27 28-29  28 28	25 1 19 1 25 2 23 7  25 7 22 5	0.21 0.18 0.12 	-0.26 - - -	0.18 0.10 0.12 	2 3 1 -  3 5 2	28	2		
The Saskatchewan Forks																			
Melfort Prince Albert Rosthera Saskatoon	52 47 53 10 52 40 52 16	104 30 106 0 106 20 106 30	1432 1657 1571	32 1 35.0 32.1 36 8	$-\frac{3}{4.6}$	29 2 15	65 0 69 0 69 0 69.2	1 1 2 2	1 0 3 0 0 7 1 0	28 28 19 29	20 2 19 5 19 4 19 0	0.47 0.88 0.29 0.49	+0.02 -0.23	0 18 0.36 0.18 0.31	4 7 3 3	27 24 28 28			
Lower Saskatchewan River																			
Lost River	53 17	104 21		31 6	-	3	68.0	:	3.0	28-29	18.7	0.72	-	0.27	4	27		••	١.
Manitoga— Qu'Appelle and Assini- boine Rivers																			
Aweme (St. Albans) Boissevain Brandon Carman Cypress River Hillview Minnedosa, Ninga Ninga Pierson Pierson Portago la Prairie Portave la Prairie (2) Russell Souris Treberna Virden	49 31 49 33 49 55 50 15 49 24 49 14 49 11 49 34	99 33 101 1 99 57 98 0 99 33 100 33 99 50 99 38 99 51 101 5 100 58 198 17 101 20 100 55	1180 1703 1176 872 1232 1400 1699 1363 1649 1531 1400	35 6 31 3 34 2 34 7 34 2 36 1 36 9 37 1 33 8 33 8 33 6 6	- 1 8 - 4 3 - 6 4 - 5 8 - 2 1 - 5 2	29 26  28 30  8 23 6 21 4 18 8	81 5 80 0 81 3 3	2 3 2 2 2 2 3 3 3 3 4 4 2 2 2	1 8 5 0 0 - 3 0 0 2 0 0 2 0 0 3 0 0 2 0 0	28-29 29 29 29 28-29 29-30 30	22.0 19.8 23.4  20.4 20.0  25.2 21.9 21.5 17.0 24.8 19.2 25.9	1.03 1.07 0.73 1.48 0.66 0.95 1.29 0.88 0.98	-0.03 +0.07  +0.18 -0.39  -0.19 -0.09 -0.28	0.49 0.72 0.60 0.55 0.42 0.45 0.83 0.33 0.68	12 3 3  7 8  3  4 4 6 8	19 28 28 29  24 23  28 27 27 27 25 ———————————————————————————	3	1	
The Red River																			
Almasippi Morden. Oak Bank. Stony Mountain. Winnipeg	49 14 49 11 49 57 50 40 49 53	99 20 98 6 96 42 97 14 97 7	978 800 803 760	36 8 37 6 36 0 35 9 36 7	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	11 9 18 31 40	79.0 78.0 71.5 77.0 73.4	2 1 2 1 2	- 2 0 3 0 0 0 2.0 5.0	29 29 29 29 29	23 2 21 1 17 6 25 9 17 6	1.27 1.10 0.75 0.60 0.77	-0 68 -0.44 -0.75	0.93 0 69 0 36 0.50 0.45	5 4 4 3 11	26 27 27 28 29 20		2 1 1 .;	

• Stations not furnished with Registering Thermometers

								Темре	RATURE				PRE	CHITAT	10%.	٤			_	
STATION.		I atttade N.	Longitude W.	Devation above sea level, in fect.	Mean.	Difference from average.	Yr's observations	Highest	Date.	Liwest	Date	Mean daily range	Arnount.	Difference from	Heaviest fall in month	Fays with 61 or more	No of fair days	No. of autoras	No of thunderstorms	No offogs.
Manitoba—Continued				1			_								=	_	-	-	-	_
Dauphin Lake und River Berens River Dauphin Moose Horn Bay (Artkens- ville)	72 51	15 8	97 23 160 2 99 33	710 957	35 U		7	7 : 0	3	1 0	23 30	21 1 16 8	0 12	····	0 12	1	30	1		**
Lake Winnipegosis Le Pas	52	6	101 15	1112	31.4	_	3	62.2	1	2 0						- 31				1
Ontario-					31 1		Ü	0= 2	1	2.0	57	14	0.61	-	0.25	î	24	1		
The Lake Superior Districts																				
Rainy River Fort Frances. Keborn Shoal Lake Thunder Buy			9 32	1102	54 7 33 8	-77	1 12	85 0 61 0	26 3-4	30 0	169	21 ± 13 4	2 54 2 36	+0.73	1.54	10	21 21		1	
Kakabeka Fulls. Port Arthur Schreiber	48 48 48	27 50	89 26 89 12 87 15 82 11	912 644 933 1333	38 2 39 5 39 2 41 9	- 2 1 - 0.8	5 31 14	74 0 63 0 65 8 72.9	3 1 10 7	1 0 8.0 11 2 6 2	22 22 29-30	22 4 17 0 18 2	3 54 3 73 5.94	;- <u>1</u> 20	1 50 2 06 3 35	11 12 11	20 19 20	. 1	3	1 3 2
Bisco. Bruce Mines Chapleau Copper Cliff	46	15	83 55	595	47 1	+ 1.5	15	73 ()	6-7	14 0	31	16.8	2 46	-0,83	0 65 0 80	10	20 21		3	::
Providence Bay. Timmins (Sandy Falls) White River.	46 45 48	40	80 59 82 14 85 16	1252	45.3 40.6 46.9 40.6 37.0		6 2 3 1 23	76 0 74 0 69 0 75 4 71 0	11 6 8	12.0 10 H 17 0 9.5 2 0	31 31 31 31 30-31	14,5 11,6 13,2 17,3 20,1	4.23 1.53 4.21 3.87 1.80		1 46 0 75 0 91 0 94 0 46	12 8 12 15 11	19 23 19 16 20			
Nipissing Cochrane Haileyburv Iroquois Falls Montreal River	49 47 48 47	29 45 8	81 0 79 39 80 40 79 29	946 687 850	44 7 44 6 41 0	$-\frac{7}{2}$ 1	19 1 3	73.0 77.8 74.9 79.0	7 7 7 7	10 0 13 3 10.2	31 31 31	15 6 14 3 16 2	3 03 4 29 2 37 4 30	+ 1 58	0 68 0 90 0.72 0.90	13 15 10 12	18 16 21 19		2	5 3
Upper Ottawa River Rutherglen (Leke Talon) Stonecliff (Rockliffe)	46 46	15 9	74 48 78 6	557	45 1 46 0	+ 4 8 + 2 9	19 29	81.0 80 0	7 7	15,0 20 0	22-31 31	18 0 18 9	3 48 3 00	+0.72 +0.59	0.63 0.82	11 16	20 15	1	4	5 3
Upper St. Lawrence and Lower Ottawa Rivers Almonte. Bloomfield. Hiller Kingston. Montague Morrisburg. North Gower Ottawa Henfrew.	45 43 44 44 45 45	12 59 13 56 8 26 26	76 13 77 21 76 29 75 57 75 43 75 42 76 30	390 260 285  294 416	49 5 51 6 49 4 51 1 48 9 50 4 50 1 50 0 49 1	+ 2.6 + 2.7 	2 13 2 39 4 1 11 28 24	77 0 75 0 74 0 73 9 79 0 80 5 80 0 76 0 8 1 1	6-10 7-12 6 7 6-10 7 8-10 9-10 7	22 0 24 0 23 0 21 7 23 0 23 0 12 0 23 0 23 0	31 31 31 31 31 22 31 31	18 4 17 3 17 2 15 2 18 3 19 7 23 3 15 5 17 8	3 14 3.66 2.58 2.98 4.32 6.14 2.46 4.94 2.48	+0 99 +0 28 +1.99 	0 73 1 17 0 90 0 81 1 23 1 50 1 67 1 42 0 86	13 7 15 12 11 6 14 13	18 24 24 16 19 20 25 17 18		1	· · · · · · · · · · · · · · · · · · ·
Georgian Bay Counties Barrie Beatrie Big Chute (Buskin P O ). Coldwater. Collingwood. Gravenhurst. Huntsville Widdland	44 45 44 44 44 45 44	23 8 35 34 31 54 19 44	79 41 79 20 79 20 79 40 80 2 79 20 79 8 79 53	839 800 655 600	46 8 50.8 48 5 47 6 47 9 49 2	+34+31+25	35 1 24 43 7 6	76 0 52 0 83 0 78 0 80 0	7-10 10 7 7-10 7-10 7-10	15 0 20 0 16 0 21 0 15 0	31 31 31 31 31	16 9 21 7 23 4 18 9 21 0	4 71 3 56 2 27 3 81 3 86 4 51	-1 39 -0 52 +0 50	1 37 0 95 0 64 1 23 	8 9 8 10 7	23 23 23 21 24 24	i	. 2	2 1
Markdale Meaford Orillia Owen Sound Parry Sound Ronville	44 44 15 45	37 34 14 15	79 24 50 55 80 0 78 57	775 597 635 1038	49 0 45 0 47 8	+ 2 4 + 2 2	19   37   6	77 0   78 0 79 0	7~10 11	18 0 17 0 18 0	31 31 39	16.7 16.7 10.5	3 09 4 31 44	-n 20 + <u>1</u> 61	1 07 1 07 1 09 0 90	6	25 26 19		4	
Lake Huron Counties Birnam. Clinton Goderich Lucknow North Bruce Southnmpton.	43 43 43 44 44	2 32 45 56 23 30	81 55 81 37 81 41 81 30 81 25 81 21	600  908 656	51 4 49 8 50,6 47 6 49 3 49 6	+ 2 9 + 3 3 - 1 9 + 0 2 + 1 7 + 1 6	21 11 23 27 25 37	77 0 79 0 80 0 79 2 81 0 80 2	10 11 8 11 7-9 10 7	28 5 21 0 27 0 18 9 25 0 25 4	31 31 31 31 31 31 31	13 2 16 7 13 9 16 9	3 79 5 89 4 98 6 22 4 22 3 65	+0 50 +2 23 +2 56 +2 23 +1 9 +1 78	0 15 1 49 1 26 1 25 0 97 1 31	10 14 15 17 14	21 17 10 11 17	1	2 2 2	2 2 1 2
akes St. Clair & Erie, Nlagara Peninsula																				
Chathem. Cottem. Dutton. Grimsby. Peleo Island. Port Burwell. Port Dover. Port Stanley. Rt. Cethers.	42 42 43 41 42 42 42 43	23 7 13 50 39 27 40 6	82 12 82 45 79 36 82 35 80 55 80 13 81 13 79 17 79 45	595 606 585 592 635 592 347	53 4 49 0 50 7 52 4 50 7 50 0 49 9	+ 2 5 - 1 8 + 1 5 + 1 5 + 1 6	28 26 1 4 31 10 37 57	\$7.0 \$2.0 \$0.0 \$1.0 71.0 \$0.5 71.7	6 7 6 7 10 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	21 0 21 0 25 0 28 0 26 0 26 5	31 31 31 31	16 8 22 0 10 1 16 4 17 0 15 2 16 3	2 05 6 54 2 76 2 40 1 13 3 58	+ 1 31 +0 91 	0 10 1 4 0 15 1 05 1 23 0 85 0 70 0 96	11 10 6 10 10 9 15 16	2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1			
Stoney Creek Wallaceburg Welland Windsor	43 42 42 42	13 35 59 20	79 45 82 24 79 17 83 4	292 	51.6 54.5 52.2	+ 1 6 + 2 2	24 8 25	78 0 53 0 77 0	6-1 9 6-7	2+0 27-0 15-0	31 31 21	16 3 74 4 15 9	2 64 2 85 3 23	0 24	0.71 0.54 1.11	11	2 1 2 20	::;		5

#### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, OCT., 1913.

\* Stations not furnished with Registering Thermometers.

			ď				ТЕМЕ	FRATU	RE			PREC	IPITAT	ION	rcore.			ą.	
STATION	Latitude N.	Longitude W.	Elevation above sea level in feet.	Mean.	Difference from average.	Yr's Observations	Highest	Date.	Lowest.	Date	Mean daily range.	Amount	Difference from Average.	Heavest fall in month.	Days with 01 or mc	No. of fair days.	No. of auroras.	No of thunderstorms.	No of form
Ontario-Continued-																			
West-Central Counties	0 /	. ,																	
Alton Brantford Elora. Guelph Lastowel. London Paris Schelburne Stratford Woodstock.	43 51 43 10 43 41 43 33 42 59 43 12 43 23 43 8	80 5 80 21 80 24 80 16 81 13 80 25 81 0 80 47	1250 750 1274 1050 808 840 1191 980	45.6 50 5 48 3 49 6 48 0 49 7 50 5 50 2 48 7	+ 1.1 + 2.6 + 4.3 + 2.6 + 2.3 + 4.2 + 1.8 + 2.9 + 1.6	32 16 27 11 29 23	\$1.0 \$4.0 \$5.0 \$1.0 77.0 \$3.0 \$2.0 \$0.0	7 6 6 7 10 6 6 6	17 0 26 0 21.0 23 0 22 0 26 0 27.0 23 0 25.0	31 30 31 31 30 31 31 31 31	23 8 19 9 21 0 18 1 17 4 19 7 18 8 17 9 18 3	3.07 2.62 1.83 2.64 4.93 3.70 2.88 3.46 2.81	+0.28 +0.12 -0.98 -0.57 +1.08 +0.75 -0.12 -0.05 -0.07	0 90 0 87 0.46 0.84 1.14 0.66 0.58 0.76 0.59	8 10 16 9 12 16	23 25 21 15 22 19 15 20 17		1 1	
ake Ontario Counties																			
Agincourt Aurora Hamilton Osbawa Toronto Toronto Is (Lakeside Home) Usbridge Wexford	43 47 43 57 43 16 43 53 43 40 43 40 44 5 43 44	79 16 79 24 79 54 78 52 79 24 79 24 79 8 79 17	590 886 303 331 350 886 555	51 2 48 1 51 6 52 8 49 1 49 0	+ 3 3	17 6  72 8 9 2	83 0 79_0  51 4 78 0 80 0 79.0	6 6 7 6 6	24 0 26 0 26 9 28 0 22 0 30 0	31 31 31 31 31 14-22	17 9 17 4  16 1 16 6 16 2 15 8	2.28 2.50 2.46 2.77 2.17	-2 02 -0.11 -0.24 -	0.85 0.81  0.96 0.98 0.85	8 6  14 11 7	23 25  17 20 24	i		3
East-Central Counties															1				
Bancroft Haliburton Kunmount Lakeheld. Lind-ay Madoe Norwood Peterboro Ursa	45 1 45 1 44 45 44 25 44 20 44 30 44 17 44 54	77 50 78 28 78 38 78 15 78 45 77 29 78 19 78 18	1050 920 850 872 575	46 8 47 6 46 1 50.1 49 4 50 I	+ 3 5 + 3 1 + 1 6 + 3 6 + 4 7 - - + 4 0	9	82 0 80.0 77 0 76 0 81 1 79 0 83 0 85.0	6 7~10 6~10 6~7 6 7 6-7	16 0 10.0 17 0 22 0 21 4 21 0 21 0	30 36 30 31 31 31 31	21 8 23 0 21 4 17 6 20 1 17 5 22 4	2 42 2 61 2 56 2 02 2 53 1 83	-0 19 -0 21 +0.49 -0 41 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -	0.70 0.50 0.70 0.76 0.93 0.98	10 8 12 10 10 - 8	21 23 19 21 21 21 	:::::::::::::::::::::::::::::::::::::::	1  1 3	3
QUESEC-																			
Middle St. Lawrence Beaneverile Bronne Cap Rouge Cap Rouge Cerlar Rapids D'Israel Montreal Quebee Sts. Anne de Bellevue Shawbridge Shawingan Falls Sherbrooke	46 11 45 10 46 46 45 55 45 30 46 48 45 27 46 34 45 32	70 48 72 36 71 18 71 21 73 35 71 13 73 89 72 43 72 6	557 678 132 896 187 296	48 4 49.5 49 0 51 0 50 9 48 8 51.4 49 8 44.9 50 1	$\begin{array}{c} - \\ + 52 \\ - \\ - \\ + 48 \\ + 58 \\ - \\ + 26 \\ + 5.2 \end{array}$	1 33 3 1 39 39 7 2 12 11	78 5 77 0 73 0 77 0 73 8 72 8 79 4 80 0 73.0 76 8	8 10 8-10 13  9 9 11 10 5-12	22 0 26.0 24 2 24 0 25 4 23 6 24 0 25 0 17 0 24 3	31 31 31 31 31 31 31 31 31	20 0 16.0 14 0 14.5 12 1 12 7 15 6 28 6 17 0 16 1	3 32 4 85 4 11 3 69 8 45 3 74 4 63 5 07 3 75	+2.34 +2.44 +0.65 - +2.26 +1.27	0 61 1 02 0.81 0.80 2 56 1.15 1.19 0 91 1.29	14 15 16 11 15 17 13 — 14 16	17 16 15 20 16 14 18 17 15	i :	1 1 1 1 1 1 	3 1
Ower St. Lawrence & Culf	49 6	61 42	30																
*Anticosti E. Pt Anticosti, S. W. Pt. *Anticosti, W. Pt. *Picquet *Cape Chatte. *Cape Magdalen Father Point Ste Anne de la Pocatiere.	49 52 48 25 49 6 49 16 48 31 47 22	64 32 68 53 66 45 65 20 68 19 70 2	93 20 65	43 2 45 0 45 9 45 3 44.8 46 2	+ 3 2 + 5.3 + 6 4 + 4 6 + 4 8	32 32 32 31 36 3	67 0 58 0 64 0 65 0 70.0 75 2	20 10 7 21 11 8	18 0 28 0 30 0 29 0 26 0 24 4	31 31 31 31 31 31	14 1 - 13 6 - 14 2	7.83 5.15 4.60 4.05 4.96 3.42	+4 28 +3 28 +2 10 +1 37 +1 81	1.38 1.60 0.90 0.90 0.80 1.10	14 19 12 17 19 17	17 12 19 14 12 14	1		111
Lake St. John Chicoutumi Chicoutumi (2) Lake Edward La Tuque Mistassini	48 25 47 39 47 27 48 54	71 5 72 15 72 48 72 15	150 1333 520 360	47 0 47.9 48 5 41 4	+ 6 4	35 3 2 2	74 5 69 0 81 0 74 0	8 12 8	24 4 29 0 21 0 22 0	31 26 31 31	14 0 7 6 17 9 16 6	3 13 - 3 22 3 05	+0.78	0.76 - 1 00 0.96	16 11 13	18 - 20 18		1	
The Northwestern Districts												0.20							
Abitibi Amos Manonan Crossing Temiskaming Weymontachingue (Dam A) White Shore Lake	48 33 47 64 	79 22 73 50 75 43		41.9 41.3	+ 1 6	18	69 0 73.0  77 5	1-7 7	16 0 13.5	30 30	11 4 16 0	2 39 4 37  3 75	+0 88	0.85 0.71	11 19  12	20 12  19	5		2
The North Shore Clarke City	50 10	66 25		43 6	_	7	67 0	5-10	15.0	31	12 9	7.10	_	1.41	16	15			10
New Brenswick— Chatham Dathouse Frederict of Ex-Farm) Frederict of Ex-Farm) Moneton Point Leprentu St, John St, Stephen Sussa	47 3 48 4 45 57  46 9 45 4 45 17 45 11 45 38	65 29 66 22 66 36  64 45 66 28 66 4 67 16 65 38	21 39 164 106 50 30 70 35 96	52 6 49 1 52 8 53 1 52 6 52 6 54 9 53 0 55 1	+ 7 3 + 8 0 + 8 2 + 7 7 + 5 6 + 7 5 + 6 0 + 9 4	39 38 39 1 16 35 40 16 16	75 5 70 0 75 8 75 0 67 5 73 0 63 0 69 3 74 5 71 0	7 7-9 7 7 7 19-22 7 3 3 9 7	30.0 29.0 26.0 28.0 23.0 28.0 30.2 26.0 26.0	31 31 23 23–31 31 31 31 31 23	12 7 9.0 12 9 15 0 — 13 9 — 9 4 13 7 12 2	9 22 3 73 7 42 5 10 1 35 8 75 5 16 5 95 5 29 6 23	+5 53 +0 70 +2 62 - +5 48 +1.15 +1.80 +0.89 +2 25	1 50 0 85 1 09 1 02 0 60 1 50 0 87 1 65 0 91 2 98	20 7 18 14 4 12 10 19 16 6	11 24 13 17 27 19 21 12 15 25		1 :: :: :: ::	3 4 2 9 8 1

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, of T., 121 $^{\circ}$

\*Stations not furnished with Registering Thermometers.

	-					_													_
			500				ТЕМР	ERATU	RI.			Par	111111	l es	10			911	
STATION	Latitude	Longitude	Elevation above 88	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range	Аполе	Difference from	Heavest fall in menth	Pays with 01 or me	No of fair days	No. of Auroras	No of thurderstore	No. of logs
NOVA SCOTIA-	0 /	۰																	
Advocate. Aatigomsh Halifas Halifas Kentville. Kentville (2) Liverpool Nappan New Germany. Port Hastings. Sable Island, E. Pt Sable Island, E. Pt Sable Island, E. Pt Truro Truro Truro Truro Truro Whitehead Wolfville Yarmouth Ye. E. Island Hamilton Hamilton Hamilton Hamilton Summerside.	45 15 44 59 45 7 43 50 46 14 46 14 46 25	64 19 61 22 59 46 60 6 60 10 63 18 63 15 61 8 64 20 66 2 63 10 63 7	500 888 400 500 401 455 255 255 355 777 200 900 655 388 755	55 6 54 6 57 8 53 8 56 1 58 9 55 5 56 7 56 3 57 0 86 9 57 9 55 8 57 4	+ 9 0	1 3 39 2 1 1 1 1 1 2 2 1	73 0 73 6 75 6 69 0 74 0 72 0 72 0 75 0  69 0 70 0 73 8 73 0 72 6 74 0 70 0 70 0		25 0 22 0 30 22 28 0 31 0 26 0 28 0 26 0 41 0 32 0 27 2 27 5 30 0 31 5 29 9	31 1 1 1 1 1 1 1 1 24 1 1 1 23 1	11 5 12 3 12 2	2.31 10 49 9 66 9 00 11 43 7 83 8 63  7 64 2 96 9 40 9 22 10 08 11 44 5 64 7.49 7.71	+1 93 -1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.94 1.98 2.31 1.70 2.00 3.03 0.66 2.90 2.04 2.27 2.88 0.99	11 20 16 22 12 13 11  14 17 14 18 18 18 19 18 17 	20 111 144 9 198 200 177 144 17 13 13 13 12 13 14		1	6
Newfoundland— *Amour Point Buria *Cape Norman Fogo. *Point Riche Port aux Basques St. George'e St. John's.	47 0 51 38 49 43	55 10 55 52 54 17 57 25 59 10	27 30 35 27 125	47.9 50 1 48.1	+ 6 2 + 2 7		65 0 71.0	21 5	27 6 30 5 30 0	31 31	8 4 12 8	5 56		1.79	16	 .: 15			
Burmuda— Prospect	32 17	64 46	151	73 6	+ 0 1	22	82 0	6	63 8	3	10.7	4 22	-2 6	1.04	22	9		2	

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING OCT., 1913.

			AINFAI				5.10h	FALL.		
STATIONS.	Amount in inches.	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month.	Date.	Amount in inches.	No. of Days.	Heaviest Fall in Month.	Date.	REMARKS
патын Селимата—										
Aikail Lake										
	2 19 3.15 7 05	13 y	13 22	0.57 0.79	11 10					
Coquitlam Cariboo Road No 141 Denman's Island		10	21	1 55	10					
Denman's Island	4 52 3 10	11	20	1 55	12		3	10.0	11	
rerguson	5 02	10 13	18 18	0 J4 1 23	13 11	12.0	3	10.0	11	
Hydraulio Hornby Island Luvermere Jordan River Jordan River (Bear Creek)	4.68	· · · · · · · · · · · · · · · · · · ·	92	1 58	12	Parana				
Invermere	0 61 9 24	4	27 12	0.40	9					
Jordan River (Bear Creek)	9 24	19 15	16	3 89 2 24	10 12					
	9 53 3 60 1 77	8 9	23 21	0 95 1 04	12 11	0 5				
Nass Harbour Rook Creek Shawnigan Lake	1 14	8	23	0.70					13	
Rock Creek					10					
Sooke Lake	4 85	12	19	1 14	11					
n, chart							*******			
LDERTA-										
Bardo	0.10	1	28 29	0 10 0 21	2	2.5 1.2	2	1 5 1.2	13	
Bardo Blamark Brucárrheim Bittern Lake Brooks Benovr Mines Coleman Cowley Control	0 21	1			3	1 2		1.2	13	
Bittern Lake	0 24 0 18	1 5	28 24	0 24	2	1.8	2	1.5	14	
Beaver Mines	_		_	0 05	26	1 6 30.4	5	1 5 12 0	13	
Coleman	1 30 0 41	4	24 21	0 45 0.26	13	12 0 9 5 15.5	3 6	6.0	4	
Caldwell	0 36	1	27	0 36	3	15.5	5	4.0 7.0	4	
Condived Claresholm Clarieda Dorenlee (Bashaw) Dunstable (Five Lakes) Grassy Lake Jumping Pound Lock Blux	- 0 30			0 36	-3	2.1 9 0	3 2	1 2 6 0	6	•
Dorenlee (Bashaw)	0 09	3	25	0 05	19	4.1	3	2 3 0 5	13	
Grassy Lake	0.53	-6	25	0 27	13	10	ot Mens	ured 0.5	4-5	
Loch Sloy										
Lineham	-	=	_	_	-	13 0 4 5	2 3	9 5 2 3	5 28	
La Pearl	0.10	i	26	0.10	8	3 9		9 9	4	
Macleod	0.19	1	23	0.19	13	6 0	4 2 7	2 2 5.0 2 2	4	
Mayeroit Mountain View	0.13	1	25	0 62	13	11.0	5	6 ()	5	
Macleod Mayeroft Mountain View Manaville (Roycroft Ranch) Nateby Nanton			-		_		1	1.0	14	
Nanton	-			-		13.0	2	7.0	27	
		· · · · · <u>· ·</u> · · · · ·		······		23.0	5	12.5	4	
Pekisko Ponoka Seven Peraons	0.40	····i	29	0.40	3	0.8	i	0.8	27	
Tilley. Waterton Mills	0 44	3	23	0 22		35.8	5	25 8		
waterton Mills	0 41	3	20	0 22	2	35.5	3	25 8	5	
ASKATCH#WAN—										
Gull Lake	0 15	1 2	28 28	0 15	24	5 0	2	4 0	5 29	
Gull Lake Gull Lake (Fks. Swift Cur.) The Mcadows (Battle Ck.)	0 40	2		0.21	3	0.5		0.5	29	
Willow Creek (Mnple Cr.) . Wapashoe						(				
								********		
Cortweight	0 92	6	25	0 65	9					
Cortorialst										
	0 92	6	25 27	0 65	9	0.3	1	0 3	21	
Cartwright Deloraine Norquny (Swna Lake) Rapid City						0.3	1	0 3	21	
Cartwright Deloraine Norquny (Swna Lake) Rapid (City Rose Bank						0.3	1	0 3	21	
Cartwright. Deloraine Norquay (Swna Lake) Rapid City Rose Bank ONTARIO — Brantford(Bow Park Farm)	0 50	3	27	0.44	10	0.3	1	0 3	21	
Cartwright. Deloraine Norquay (Swaa Lake). Rapid City. Rose Bank  NTARIO —  Brantford/Bow Park Farm) Deer Park	0 50	3 16 9	27	0.60 0.83	10 24 23	0.3	1	0 3	21	
Cartwright. Deloraine Norquny (Swna Lake) Rapid City Rose Bank  NTARIO — Brantford(Bow Park Farm) Deer Park Dutton	0 50	3		0.44	10	0.3		0 3	21	
Cartwright. Deloraine Norquny (Swna Lake). Rapid City. Robe Bank  Datable  Brantford(Bow Park Farm) Deer Park. Dutton	2 54 2 03 2 05 4 32	3 16 9 6 13	27 15 22 25 18	0,60 0,80 0 83 0 65 0,77	24 23 3 12	0.3			91	
Cartwright. Deloraine Norquny (Swna Lake). Rapid (City. Rose Bank  Datanio  Brantford/Bow Park Farm) Deer Park. Dutton Emsdale. Fort Frances Georgetown Grantlum	2 54 2 03 2 05 4 32 3 91 3 35	16 9 6	27 15 22 25 18	0.60 0.83 0.65 0.77	24 23 3 12 24 25	0.3	1	0 3	21 22-31	
Cartwright. Deloraine Norquny (Swna Lake) Riapid City Rose Bank  ONTARIO  Brantford/Bow Park Farm) Deer Park Dutton Emsdale Fort Frances Georgetown Granthum	2 54 2 93 2 93 2 95 4 32 3 91 3 35	16 9 6 13	27 15 22 25 18 18	0,60 0,80 0,83 0,65 0,77 0,70 0,78	24 23 3 12 24 25	0.3			91	
Cartwright. Deloraine Norquny (Swna Lake) Riapid City Rose Bank  ONTARIO  Brantford/Bow Park Farm) Deer Park Dutton Emsdale Fort Frances Georgetown Granthum	2 54 2 03 2 05 4 32 3 91 3 35	16 9 6 13 12 13	27 15 22 25 18 18 17	0.60 0.83 0.65 0.77 0.70 0.78	24 23 3 12 24 25	*	1 2	*	21 22-31	
Cartwright. Deloraine Norquny (Swna Lake) Rapid City Rose Bank  Ontario  Practical City Rose Bank  Ontario  Brandford(Bow Park Farm) Deer Park Deer Park Fort Frances Georgetown Grand Valley Hillier MacCie	2 54 2 03 2 05 4 32 3 35	3 16 9 6 13	27 15 22 25 18	0,60 0,80 0 83 0 65 0,77	24 23 3 12 24 25	*	1 2	* * * * * * * * * * * * * * * * * * *	21 22-31 30	
Deloraine Nortuny (Swna Lake) Rapid City Rose Bank  NATARIO —  Brantfar-liBow Park Farm) Deer Park Deer Park Emisdale Fort Frances Georgetown Grand Valley Hillier MacCie MacCie MacCie Ningara Fall's	2 54 2 03 2 05 4 32 3 31 3 35 2 26 5 5 52 3 05	16 9 6 13 12 13	27 15 22 25 18 18 17	0.60 0.83 0.65 0.77 0.70 0.78	24 23 3 12 24 25	*	1 2	*	21 22-31 30 19	
Cartwright. Deloraine Norquny (Swna Lake) Rapid City Rose Bank  Ontario  Practical City Rose Bank  Ontario  Brandford(Bow Park Farm) Deer Park Deer Park Fort Frances Georgetown Grand Valley Hillier MacCie	2 54 2 03 2 05 4 32 3 31 3 35 2 26 5 5 52 3 05	3 16 9 6 13 12 13 	27 15 22 25 18 18 17 23 21 17 25	0.60 0.80 0.83 0.65 0.77 0.78	24 23 3 12 24 25 22 24 5	1.5	1 2	* * * * * * * * * * * * * * * * * * *	21 22-31 30 19	
Cartwright. Deloraine Norquny (Swna Lake) Rapid City Rose Bank  Ontario  Practical City Rose Bank  Ontario  Brandford(Bow Park Farm) Deer Park Deer Park Fort Frances Georgetown Grand Valley Hillier MacCie	2 54 2 03 2 05 4 32 3 31 3 35 2 26 5 5 52 3 05	3 16 9 6 13 12 13 8 9 12 6 6 3 7	27 15 22 25 18 18 17 23 21 17 25	0.60 0.80 0.83 0.65 0.77 0.78	24 23 3 12 24 25 22 24 5	1.5	1 2	* * * * * * * * * * * * * * * * * * *	21 22-31 30 19	
Cartwright. Deloraine Norquny (Swna Lake) Rapid City Robe Bank  ONTARIO  Brantford/Bow Park Farm) Deer Park Dutton Emsdale Fort Frances Georgetown Granthun Grand Valley Hillier Mingar Fal's Nipizon Princeton Princeton Princeton Princeton Residen	2 54 2 03 2 05 4 32 3 31 3 35 2 26 5 5 52 3 05	3 3 16 9 8 13 12 13 12 13 8 9 12 6 3 7 9 9	27 15 22 25 18 17 23 21 17 25 28 24 22 24	0 44 0,60 0 83 0 65 0,77 0 78 0 57 0 90 1,90 1 35 0 56 1 28	24 23 3 12 24 24 25 27 21 27 20 22 23 23 20	1.5	1 2	* * * * * * * * * * * * * * * * * * *	21 22-31 30 19	
Cartwright. Deloraine Norquny (Swna Lake) Riapid City Rose Bank  ONTARIO  Brantford/Bow Park Farm) Deer Park Dutton Emsdale Fort Frances Georgetown Granthum	2 54 2 05 4 32 3 35 4 32 2 26 3 35 5 52	3 16 9 6 13 12 13 8 9 12 6 6 3 7	27 15 22 25 18 18 17 23 21 17 25 28 24 24	0.60 0.80 0.83 0.65 0.77 0.78	24 23 3 12 24 25 24 5 17 20 22 23	1.5	1 2	* * * * * * * * * * * * * * * * * * *	22-31 22-31 30 19	

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEAT UR. $= 1000 \, \mathrm{km}_{\odot} \, \mathrm{OrT}_{\odot} \, \mathrm{a}^{-1}$

		R.	MNFAL	Ι.			4500			
STATIONS	Am aut licines	Davs 01	Fair	Heaviest Fall in Month	Da*e	Ar. int	No. f Days		Date	REMARKS
Quebec-										
Bark Lake   Riviere Desert  Kipawa Dam Lucerno Perkins Mills Quinze Dam Timiskaming Ville Marie	4 05 4 25 5 42 3 6 5 32	10 6 7 5 10	19 25 23 24 20	1 27 1 21 1 50 1 40 1 48	18 24 24 19 15	5.5		1.	21-51 21-51 22 2	
New Brunswick-										
Point Escuminac	7 77	9	22	3 43	16					
Nova Scotia—										
Big Mushamush Lake (Ma- hone)										
Kentville. Milton. Mushamush River (Mahune	\$ 2.	13	15 23	2 <b>44</b> 3 75	13 13					
Nappan South Alton										

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF OCT., 1913.

a Barometer not reduced to sea level

	1					P	RESS	TRE			idity .	nd.	tely			Dir	ECTI	ON OF	Win	D PR	:0 M			VE	LOCITY	07
STATION	Z obstitte I		Longitude W.	Elevation above sea level, in feet.	Mean reduced.		Highest.	Lowest.		Kange.	Mean relative humidity	Mean amount of cloud	No. of days completely clouded.	z.	N.E.	E	S.E.	Š	S.W.	W.	N.W.	C.	Total number of observations	Mean miles per hour.	Maximum velocity.	Date and direc-
British Columbia— Atia Barkerville Kamioops «Nanaino Frince Rupert d Tranquille Vancouver Victoria	50 49 54 50 50	42 1: 10 1: 18 1: 52 1: 41 1: 17 1	33 38 21 35 20 29 23 37 30 18	170	.29	97.3	0 5t	29 : 29 : 29 : 29 : 29 : 29 : 29 : 29 :	35,1	18	71 85 82 86 88	8 6 7 7 6 6	12 12 20 9	12 0 6 1 1 1 15	7 0 0 2 1 1 0 3	4 0 13 1 12 20 7	8 2 0 12 6	18 1 10 1 8 0 3 12	2 4 1 2 2  1 5 3	0 0 18 8 5  8 12 10	5 0 1 12 0  3 5 1	6 55 13 23 27 38 11 9	62 62 62 62 62 62 62 62	9 9	33	13 <b>W</b>
YUKON- Dawson	64	4 1	39-20	1200			. , .																		· · · · · · · · · · · · · · · · · · ·	
ALBERTA— Banff Calgary Edmonton Medicine Hat	53	2 I 33 I	15 34 14 1 13 30		29 29	98 3 97 3	0 55 0 47	29	33 I 37 I	22 10	72 70 73	6 5 5	8	0 6 1	5 5 7	0 1 2	4	0 4 7	31 2 6	0 3 13	26	24 11 5	62	10.2 5.1	23 18	22 N V 4,13, 23 N V
SASKATCHEWAN— Battleford Moose Jaw Prince Albert. Qu'Appelle Swift Current	52 50 53	21 1 10 1 30 1	08 20 05 35 06 ( 03 47 07 45	1759 1432 2115	30 29 29	01 3 97 3 96 3	0 6 0 5 0 4	29 29 29 29 29	52 1 24 1 38 1	.15 30 09	93 86 91 81 80	5 6 6 6	14	1 7 7 6 3	5 4 3 6 5	2 6 4 1		1 2 8 4	18 7 14 14	9 11 6 13	12	18 40 16 0	62 93 62 62 62	8.3 5.6 10.0 10.5	48 23 31	13NV 14NV 14NV
MANITOBA— aAweme (St. Alban's) Minnedosa Le Pas Winnipeg		42 9 15 9 49 1 53 9	9 50 01 15	1699 860	30 29 30	02 3 99 3 01 3	in 48 in 53 in 49	3 29 2 29 9 29	44 I 41 I 30 I	04 .11 .19	87 97 88	 5 7 5	8 11 10	5 8 10	6 6 7	3 1 2	- 5	2 2 2		6 20 14	101	23 0 4	62 62 93	10 4 11.6	42 38	14 27NV
Ontario-								-																		
Cochrane Guelph Haileybury Kingston London a Lindsay Hilly Stander London A Lindsay Ottawa Hilly Sund Hilly Sund Hory Sund For Standy Southamps n Stonechif Toronto White Riv r Woodstock	41 42 44 45 45 42 44 46 43 48	2 8 33 8 20 7 13 7 59 8 20 7 19 8 40 8 40 7 35 8 8	$egin{array}{cccccccccccccccccccccccccccccccccccc$	687 687 285 808 872 294 635 644 592 656 557 350 1252	30 29 29 29 29 29 30 29 30 29 30 29	00 3 00 3 99 3 99 3 99 3 99 3 90 3 96 3	10 40 40 40 40 40 40 40 40 40 40 40 40 40	29 1 29 29 29 29 3 28 5 28 1 29 1 29 29 29 29 29 29 29 29 29 29 29 29 29 2	20 I 02 I 14 I 22 I 99 I 11 I 42 I 26 I 18 I 02 I 11 I 47 0	21 35 33 21 37 31 05 25 21 27 34	85 80 81 95 89 79 88 85 80 82	8 7 6 6 6 7 7 6 5 7 6 6 6	21 13 11 14 11 13 8 14 13 4 10	8 11 0 11 8 16 1 1 0 9 1 1 13 9 6	0 14 277 13 6 4 177 5 4 177 5 8	4 3 6 14 11 11 8 11 11 8 4 6	10 15 9 2 7 5 4 8 3 3	15 13 2 3 16 2 3 2 0 6 0 1 10 12	13 3 1 1 5 4	19 6	7 8 19 10 11 9 27 9 7 0 13	2 0 0 19 15 4 18 14 10 23 1	62 93 93 62 63 93 62 62 62 62	7.8 3.0 4.4 10.7 5.8 7.8	25 13 14 35 18 30	23 SV 7NE 21W 21W 12S V 28 SV
QUEBEC - Anticoso > W. Pt. Father Point. Mont eat Queb c. Sher for ke.	48 45 46	24 6 31 6 30 7 48 7 32 7	8 19 3 35 1 13	1 187 203 203	30 29 29	94.3 9×3 99.3	30 53 30 40 30 43	2 29 2 29 1 25 5 29 1 29	$\frac{08}{76}$ $\frac{1}{11}$ $\frac{1}{1}$	64 34	90 87 69 83 77	8 5 7 8 7	16 12	14 4 5	16 3 27 47 2	9 19 6 2	18 6 8 3	14 5 21 3 16	3 3 6 17 10	19 12 9 23	5	4 5 1 3 0	93 62 93 94 93	13 1 12 9 15 1	45 32 53	21W 26N I 20 N I
New Brunswick— Chath m Freder.cton St John	47	3 6 67 6 17 6	6 36	164	30	02 3	0 6	1 29 3 29 5 29	41 1	22	86 89 87	8	21	3 14 18	13 11	14 12 8	0 2 13	0 15 18	20 7 6	8 12 2	4 16 5	0 4 5	62 93 93	6.3	26 38	21S 21,SV
Hablax Sable Island (MStation) Sydney Truro Truro Trut (2) Wolfville Yarmouth	14 43 46 45		3 36 0 6 0 10 3 13 4 20	88 25	29 30 30 30 30	99 2 08 3 07 3 02 3 01 3	30 5 30 6 30 6 30 6 30 6	7 29 3 29 5 29 1 29 3 29 5 29 5 29	42 1 37 1 25 1 48 1 58 1 57 1	.15 26 37 13 05 03	94 	917 8 8 8 8 8 7	20 14 11	2 1 6 2 0 0 8	3 21 7 12 4 9	5 18 6 17 6 10	14 17 19 12 19	15 8 7 19 8 9	7 12 16 17 4 6 7	12 5 12 5 4 6	4 6 11 5 4 4 3	0 5 9 4 6 11	62 93 93 55 62 62	11 1 8 1 13 6	39 42 42	15 NE
P. E. ISLAND Charlottetown	46	14 6	3 10	38	30	02 3	30 6	29.	50-1	10	88	8	21	1	10	5	9	6	8	3	6	14	62	7 7	30	218
Newpoundland Butin Fogo Port aux Basques St. George's St. John's Bermuda Prospect	47 48 47	0.5 43.5 35.5 27.5 34.5	4 17 0 16 8 31 2 43	30 27 21 21 125	30	07 3 08 3	30 5	2 29. 7 28 3 29	32 I 98'I	59	70 82	8	14	 9 12	·····	30 5	5	7 14 13	1 7	6 4 7	1 8	6	62 62 93			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF O TOBER, 1913

STATION	ż	N.E.		11		=		=		Ξ
	-	2.	F 1 1	Ś	x.	S	=	ź.	C.	otal mar her of Obser-
BERTA—										_
Athabasca Landing	3	U	4	• • •	6	3	S	.5	()	31
Didsbury.	0	U		-3	2	8	4	1.2		29
Endrang	5	2	1	11	1.3	()	1	()	()	33
Halkirk (Emsburg).	3 5	1	-2	15	1.1	(5	8	1.3	()	62
Hillsdown Loveland	5	1	9	5	8	. 5	()	24	1.4	62
Macleod	10	()	1	10	4 5	15	8	21	()	62
Pakan (Victoria)	10	0	1		.5	()	38	()	9	62
Ranfurly (Waitefield)	1	5	16	19	6	5	16	20	5	93
SKATCHEWAN—							*		.,	
Chaplin	2	4	0	5	5	1	4	9	1	31
Crescent Lake	2	6	2	5	į.		17	1.4	3	62
Estevan Fort Qu'Appelle	0	2	1	(5	1	ti	9	- 6	0	31
Contal (Decembil)	()	6	7	2	2	1.1	1.4	1.4	6	62
Grenfell (Brownhill)	()	10	5	59	.7	10	3	23	()	62
Indian Head	/	9	()	1	8	16	19	29	4	93
Moosomin										
Muenster (St. Peter's Monustery)	1	8		10	9	8	8	15		62
Onion Lake	4	3	4	2	1	1	5	11	0	31
Pense (Gatesgarth)	2	9	0	9	0	(5	1	11	0	31
Waseca	0	2	4	5	I	2	14	3	0	31
ANITOBA—		_			•	-	1.7	3	()	0,
Berens River										
Brandon	1	9	2	6	3	18	10	1.4	18	8
Hillview	1	9	6	7	4	1.1	14	40	0	9
Moose Horn Bay (Aitkensville)	14	9	1	5	7	6	7	7	6	67
Morden	I 1	6	4	3	5	S	9	12	4	6
Oak Bank	8	0 7	1 9	2 5	3	4	3	8	2	3
Stony Mountain		,	- 2		9	4	13	18	0	60
NTARIO —										
Agincourt	4	11	22	12	12	18	10	13	1	93
Alton										
Beatrice	5	()	2	6	14	2	1	10	53	93
Birnam	6	2	4	- 6	8	6	6	17	7	62
Clinton	7	6	4	7	13	3	8	14	0	62
Cottam	10	0 7	3 10	4	27 19	4	13	10	16	62
Gravenhurst	9	1 4	10	6	26	1.3	12	13	0.0	93
Oritio		1	10	1	12	5	4	13	0	3
Orillia Owen Sound	0			,	12	.,	4		U	.,
Point Clark										
Port Dover	10	8	13	4	7	4	4	10	2	63
Stoney Creek	1	14	18	3	1	10	30	16	0	93
Uplands										
Wexford	1	3	5	3	U	2	2	7	8	3
UEBEC-	23		-	9	27	3	19	10	0	Q
Abitibi	11	4 5	. 5 1.7	19	17	2	10	12	0	9:
Anticosti, W. Pt	11	9	17	19	17	~	10	1 -	.,	274
Anticosti, Heath Point Bicquet	5	35	0	0	7	(5	7	1	32	9.
Brome	27	5	3	0	23	1	31	i	2	95
Cape Chatte										
Cape Vlagdalen	6	1	6	13	16	S	3	26	1.4	9
Cape Magdalen Cap Rouge	4	14	()	0	()	1	0	12	-0	3
Chicoutimi	0	22	5	1	1	.)	1.5	5	42	9
Clarke City	3	1.4	15	4	1	ti	1	13	0	5
Manouan Crossing										
White Shore Lake										
ew Brunswick-										
Dalhousie	()	2	11	1	0	()	13	2	2	3
Moncton	0	6	5	3	()	2	1	6	S	3
Pt. Lepreaux	9	13	11	11	13	5	1.4	5	0	8
Sussex	1	11	1	0	2	3	0	2	11	3
Const.										
ova Scotia— Kentville	. 1	3	7	6	10	()	2	2	0	3
		J	,	4.7	,		_	_		
Darrahara										
Parrshoro Port Hastings. Sable Island, E. Pt.		 								

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF OCTOBER 1915.

									Hot	rs End	ING							
STATION.	B.	g.	B I	a.m.	3.m.	a.m.	10 a.m.	g e	Noon	p m.	p m	p m.	p m.	p m.	p.m.	p m.	p. II.	p. B.
	4.3		- 6 3		00		=	=	-2		cı .	6.3	4	-2	φ	-1-	-so	-6
hewnigan Lake					.18	.34	41	.46	61	.28	. 35	.27	. 15	.09	'		<b></b> .	
ictoria					.08	.23	31	28	.40	.34	38	.35	.36	.23				
almon Arm					12	. 34	.37	42	.42	.47	43	.38	.35	.16			<b>.</b> .	
Sanaimo emiane					04	.18	. 23	.34	.42	. 43	42	.42	.31	.18				
anconver					.07	. 24	.33	39	_41	. 46	46	.46	.45	. 29	.01			
gassiz		ļ			.01	. 19	.26	.31	.33	37	.31	. 30	.21	.04			<b></b>	
ranquille				.03	16	.31	.42	46	.56	58	. 59	.51	. 41	.17				
ummerland					.34	. 43	44	_45	49	45	. 50	.52	. 34	.09				
amloops				.01	,07	.22	27	39	46	. 41	.42	. 55	. 23	02				
Iarper's Ranch																	• • • •	
dmonton					.15	. 27	.45	. 58	61	.57	63	.51	.41	.18				
ethbridge				T	22	.48	.49	.49	. 54	.56	59	.57	. 53	.37	.04			
acombe				. 02	.18	.30	42	61	55	58	65	.55	.49	.22				
edicine Hat					.09	.36	. 53	.56	. 33	.47	.52	.55	.46	. 14				
ort Dunvegan																		
ort Vermilion				:														
attleford			. Т	.20	40	.45	47	. 53	59	.60	60	. 57	. 54	. 43	.12			
ndian Hend					02	. 25	.45	. 46	.59	.49	.40	.39	. 34	.06				
loosejaw				.01	.32	.47	46	48	.42	43	46	. 41	. 35	.20				
cott				.06	.16	.37	47	58	61	61	60	. 53	.31	.10	.02			
osthern					.17	35	42	. 50	.54	.53	46	.48	. 41	.21				
randon				. 01	.17	. 44	.62	.66	62	. 63	.52	. 54	. 27					
/innipeg				.01	17	.40	.44	.51	. 56	57	.52	.60	.50	.30	.01			
Tailey bury				.01	.17	. 26	28	.294	.27	. 29	.30	.31	.33	. 28	.06			
* 1					.07	. 27	.37	.47	.37	.43	39	.36	. 29	.12				
Voodstock			1			. 16	.36	.39	.44	.47	.41	.46	. 43	. 22	. 02			
indsay					.14	30	. 36	. 42	43	42	.44	.38	. 28	.08			1	
arrie				.01	27	47	.47	52	49	45	39	.37	.36	.25	.02			
oronto					.10	.40	.51	. 48	.46	.45	.48	. 43	.34	.17				
ingston			1	.01	22	45	50	.52	_50	.46	47	.43	.44	.32	,02			
ttawa				.01		10	00		_00		•							
ontreal				Т	14		.33	.35	28	27	.27	. 27	.18	.09	.01			
ap Rouge			, , , ,		.13	27	.32	.39	.37	.33	32	.29	.24	.10				1
uebec					. 13	26	.30	29	.28	.33	.32	.33	.20	.02				1
te Anne de la Pocatiere				11.	.09		. 29	.30	.35	.36	.33	. 32	.35	.23	. 05			1
berbrooke		1				.25		.20	. 27	28	.35	,21	.16	.10	.01			ì
redericton					.03	.16	.17	.17	.18	.26	.30	.21	.10	.13	.01			
harlottetown					.05	. 16	.17				.32		.30	.20	.01			.ĺ
appan					.02	, 15	.20	.24	25	.30		.31			.01			
Volfville				· · · · · ·	.06	.17	20	.21	. 23	.23	25	.28	. 24	.13				1
Centville		. ]			T	.11	. 16	.20	17	22	27	8.3	. 30	10	1			.

Fent ville	1 3	5	-		ž	: 2
•HivHoW	00	9	£	1	2	81 9
nuqqe7.	i	- :	7	1 3	ž š	B 2
Charlottetown.	3	=	-	1 6		. 2
Fredericton	1 2	-		9 3		1 4
salcot trad8	3		7	i		= =
al ab and ots	- 2	- 7	7	5	3 1	- :
Оперес	ő	6.7 C	: £	3		- :
Cap Ronge.	1:	2.5		-	7	· · _
Montreal						
.gwellO	134	4	-	. 3		
Mingelon	118	35		- 2	- 2	- 0
Toronto	136	36	ž.		13	5
Barrie.		30				2
Lindsay.	104	31	10.	80	31	0
Woodstock.	97	30	-12		13	13
Haileybury.	ź	92		- 56	23	90
Winnipeg.	142	<u></u>	- 9	- 68	Ξ	1-
Brandon.	138		+	25	22	- 49
Козгрета.	97	39	+	- 16	23	
Scott	37	-		86	15	273
Monse Jaw.	- 5	38	<u>_</u>	88	22	9
Indian Head		33	4-	6.	92	- x
Battlelord.		23	!	90	12	7.86
Fort Vermilion			_+	I	-:	
Fort Dunvegan			:			
Medicine Hat.		¥			- 52	
Lacombe		- 23		- 06	53	
	-122	- 64				
Lethbridge.	37	- 51	1	-16	31	
Edmonton			- 1		~ -:	
HaneH e'19qtEH	<u>-</u> -	\$74 014		:		
Kamloops.	52	38	- 1	- 12	C4	
Summerland.		35-	1	ž	7	
Tranquille.	72 13(	32	- 6	. S.	23	91
Z 18883 V		25	_ ]		30 2	2
тэчиоэпвУ	92 111	25	_ <u> </u>	58		
.omianeN					35	
Salmon Arm.	2 107	.5	ا ـ	ž	_	
Victoria	33	6.9	Î	2		33
neviansd2 ode.1	12	64	1	Ē	T.	3/
SEPT, 1913	tegistered duration	Percentage of pos- suble duration	Difference from average	Maximum percent- age in one day	late of maximum.	Number of days completely cloud-
38	Regists in ho	Percen	Differe	Maxim	Date o	Number South

SUMMARY OF SUNSHINE RECORDS

#### Thunder recorded:

- 1. Deer Park, Wiarton, Brantford, Paris, Kakabeka Falls, Bisco.
- 2. Georgetown, Emsdale, Beatrice, Brantford, Lucknow, Bruce Mines, Liverpool, Loveland, Toronto, Parry Sound.
  - 3. Waterton Mills, Truro.
  - 4. Kakabeka Falls, Liverpool, Pt. Lepreaux.
  - 5. Birnam.
  - 6.
  - 7. Wawaitin Falls.
  - 8. Chicoutimi West.
- 9. Cartwright, Shawinigan Falls, Madoc, Bruce Mines, Morden, Aweme, Rutherglen, Treherne, Cap Rouge, Almasippi, Beauceville, Quebec, La Tuque, Kenora
- 10. Madoc, Kakabeka Falls, Bruce Mines, Bisco, Schreiber, Rutherglen, Treherne, Brome, Parry Sound, Port Arthur, Winnipeg.
- 11. Georgetown, Emsdale, Beatrice, Lucknow, Clinton, Wawaitin Falls, Rutherglen, Souris, Parry Sound, White River.
  - 12. Emsdale, Haliburton, Lucknow, Clinton, Birnam, Cottam, Rutherglen, Parry Sound, Listowel.
  - 13. Windsor N.S., Nakusp, Chilliwack, Hope.
  - 14.
  - 15.
  - 16. Qu'Appelle.
  - 17.
  - 18.
  - 19.
  - 20. Shawinigan Falls, Cedars, Morrisburg, Hillier, Montreal, La Tuque,
  - 21.
  - 22.
  - 23. Revelstoke.
  - 24.
  - 25.
  - 26.
  - 27.
  - 28. Point Escuminae, Advoçate, Yarmouth, Stonecliffe.
  - 29.
  - 30.
  - 31.

#### Auroras recorded:

- 1.
- 2.
- 3. White Shore Lake IV.
- 4. Lucknow IV, Clinton I, Schreiber III, White Shore Lake III, Rutherglen, Mistassini IV, Wexford, Aitkensville IV, Halkirk, Ranfurly III, Quebec, Waseca.
  - 5. White Shere Lake IV, Dunstable I, Sion III, Hillsdown IV,
  - 6. White Shore Lake IV, Sion IV.
  - 7. White Shore Lake IV, Ranfurly, Sion III, Moose Jaw, Waseca.
  - 8.
  - 9.
  - 10.
  - 11.
  - 12.
  - 13.
  - 14.
  - 15.
  - 16.
  - 17. Mistassini IV.
  - 18. Ranfurly III.
  - 19.
  - 20.
  - 21.
  - 22.
  - 23.
  - 24. Kakabeka Falls IV, Lae Pas, Muenster IV.
  - 25.
  - 26. Mistassini III.
  - 27.
  - 28. Aweme IV, Aitkensville IV.
  - 29. Sion IV.
- 30. Birnam IV, Aweme II, Mistassini IV, Aitkensville III, Ranfurly III, Sion III, Hillsdown IV, Muenster IV, Anglea.
- 31. Aweme II, Schreiber IV, Aitkensville III, Ranfurly III, Sion III, Hillsdown III, Waseca, Muenster IV, Crescent Lake, Anglea.

#### FORECASTS FOR OCTOBER 1913

The forecasts issued by this office at 11 p.m. each night, are for the 24 hours beginning at 8 a.m. the following day; and are published in most morning newspapers.

The number of these predictions issued during the month was 1208. These were divided as follows:

	No.		VERIFI	EO.	
District	Issued.	No. Fully.	No. Partly.	No. Not.	Per- centage.
Alberta	77	59	8	10	81 8
Saskatchewan	78	61	12	5	85 9
Manitoba.	82	60	12	10	80.5
Lake Superior.	109	69	30	10	77.1
Lower Lake Region	124	94	24	6	85 5
Georgian Bay	124	100	21	3	89 1
Ottawa Valley	93	78	13	2	90 9
Upper St. Lawrence	93	76	12	5	88 2
Lower St. Lawrence	103	70	28	5	81.6
Gulf	111	76	21	14	77.9
Maritime Provinces West	107	72	27	8	79 9
Maritime Provinces East	107	77	20	10	81.3
Total	1208	892	228	88	£3 3

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director.

Meteorological Office, Toronto,

Nov. 24th, 1913.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA. METEOROLOGICAL SERVICE

# Monthly Meather Review

VOL. XXXVII.

NOVEMBER, 1913

No. 11

#### INTRODUCTION.

In compiling the present Review, the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### HIGH AREAS.

Ten areas of high pressure were charted. Three first appeared to the northward of the Western Provinces, two near Vancouver Island, one in the North-Pacific States, three on the Middle Pacific States Coast, and one near James Bay. Three of the areas passed far to the northward of the Great Lakes and into Eastern Quebec and the Maritime Provinces, two over the Lower Lake Region, one broke up in the Northwestern States, while the remainder drew to the southern portion of the continent. The majority of the areas were of little intensity and were seldom attended by any low temperatures.

#### LOW AREAS.

Sixteen areas of low pressure were charted. Seven first appeared in the far northwestern portion of the continent, one near Vancouver Island, one in the North Pacific States, four in the far southwest, one near the west coast of Florida, one near James Bay and one near Bermida. Eight of the areas passed to the northward of the Great Lakes, three across and one to the southward of the Great Lakes, while others dispersed before they had reached the eastern half of the continent. The areas which united over the Great Lakes on the 9th, one from the northern British Columbia coast, the other from the vicinity of the west coast of Florida, were the two most important of the series, causing a gale of great violence on the Great Lakes, otherwise the areas were not of the usual energetic type of November depressions and as a result few gales were experienced over the Dominion.

#### ATMOSPHERIC PRESSURE.

The results obtained at the Telegraphic Reporting Stations indicate that the mean atmospheric pressure for November was subnormal from the Pacific Coast to and including New Ontario, while in other parts of Canada, the values exceeded the normal. The divergence from normal was most marked in the Western Provinces, being nearly 0.2 of an inch below average in most localities and reaching —0.24 of an inch at Calgary. Positive differences in Eastern Canada were, as a rule, small, but attained +0.15 of an inch at St. John, N.B.

#### GENERAL SYNOPSIS OF TEMPERATURE AND PRECIPITATION.

The following table is intended to show the average values of temperature and precipitation for each province for the month under review. District and Provincial means would, under ideal conditions, be derived from stations situated in equi-areal squares. But since in reality they are so situate as to appear, rather, constellation-wise upon the map, anomalous values arising from local topographical peculiarities may have received more than their just weight in the computation of the following averages.

Where no difference from normal is assigned, observations over a period long enough for reference are not available.

		Teni	PERATUR	в Плив				Precipita	TION.		
PROVINCE AND DISTRICT	Men Ded	Mem Dady Maximum	Mean Dark. Mustrome.	Menn Dady Entree	Extrane Highest	Extreme	Total in Indies	Difference from Normal.	Number of Days.	Gratest Full	Remarks
RTITISH COLUMBIA— South Vancouver Island	41	47		11	64	25	9.80	-10° c	20	3 35	Temperature 2° higher than
North V incouver Island Lower I raser River	43 4 i	47 45	37 35	10 11	5) 61	21 19	21 20 9 75	+20%	25 20	3 60 2 64	normal at Victoria, decreas- ing northwards to 2° below. Thunder at Alberni Temperature less than 1° be- low normal, local exceptions, both to temperature and precipitation.
Upper Praser River Okanagan Valley .	.10 30	38 43	23	16 14	65 56	5 11	1 10 0 80	-30°° -50°°	8	0 52 0 73	Temperature less than 1° above
West Kootenay Las! Kootenay Thompson River North Columbia River North Const Queen Charlotte Islands	36 32 37 41	42 42 59 41 50	29 25 33 31	12 13 14 8	63 55 64 50	6 12 3 25	3 33 1 44 1 38 5 25 9 73 16 60	-50°; +20°; +115°;	15 6 12 14 19 24	1 07 0 55 1 71 1 05 1 73 3 48	normal.  Temperature 3° above normal.  Temperature 2° below normal.
Albertass North Saskatchewan River The Red Deer River The Bew River Athabasea River Pence River	27 23 33 25 24	39 41 44 36 35	15 17 21 14 13	24 24 23 22 22	59 65 78 52 59	-14 - 6 -17 - 8 -20	0 08 0 17 0 33 0,25 0.40		1 1 3 1 2	0 30 0 38 0 60 0 25 0 30	Athabasca Landing, only, rep. Two stations only
SASKATCHEWAN— Qu'Appelle River	28	38	18	20	59	-10	0.54	-25°°	3	0 60	Temperature 6° to 13° above normal.
S. Saskatchewan River N. Saskatchewan River	31 25	43 37	19 14	24 23	62 55	- 4 - 9	0 14 0 20	1 : : 1	1	0 50 0 40	Temperature 7° above normal Temperature 9° above norma
Saskatchewan Forks	24	34	15	19	55	- 4	0 38		2	0 65	at Battleford. Temperature 4° to 8° above
Lower Saskatchewaa River	24	33	14	19	52	2					normal.
MANITOBA— Qu'Appelle and Assiniboine Rivers	29	39	20	19	64	- 6	0 62	-25°° o	, 5	0 60	Temperature 2° to 10° above normal
The Red River	31	40	23	17	63	0	0 44	10°0 to -30°0	3	0.75	Temperature 2° to 10° above normal; thuader at Alma
Dauphin Lake and River	27	36	18	18	57	- 5	0 90		4	0 80	sippi.
Ontario— Lake Superior Districts— Rainy River	31 32 32	38 41 39	25 23 24	13 17 15	55 60 78(?)	- 4 - 4 0	1 35 2 55 2 07		4 10 7	1.04 1.36 0.95	Temperature 5° above normal Temperature 6° above normal Temperature 4° to 5° above normal.
Nipissing	32 34	39 41	24 28	15 13	62 63	- 3 12	3 24 2 77		11 10	1 22 0 82	Temperature 6° above normal Temperature 4° to 6° abov
Upper St Lawrence and Ot-	35	43	28	15	68	15	2 53	+10%	s	1 64	Temperature 4° to 6° abov
tawa Rivers Georgian Bay Counties	38 40	46 46	31 34	15 12	66 67	12 20	4 08 3 43	$\left\{ \begin{array}{c} -50 c_o^* \\ \text{nor-} \\ \text{mal} \end{array} \right\}$	11 12	2 17 1 27	normal. Temperature +5° to +7°. Temperature +4°.
Lakes St Clair & Erie, Nia-	} 42	49	35	11	71	11	2 62	+8%	9	1.50	Temperature 2° to 6° abov
gara Peninsnia West Central Counties Lake Ontario Counties East Central Counties.	39 40 38	46 46 46	32 34 30	14 12 16	67 67 68	19 21 10	3 62 4 11 3 70	+12°° 0 +40°° 0 +30°° 0	10 11 8	1.78 2.80 2.40	normal. Temperature +3° to +6°. Temperature +5°. Temperature +5° to +9°.
QUEBEC- Middle St. Lawrence. Lower St. Lawrence & Gulf. Lake St. John. Northwestern Districts	36 32 31 30	43 38 38 37	29 25 25 24	14 13 13 13	67 68 64 60	6 - 5 - 1 - 7	2 00 1 70 1 55 2 80	-30°° -40°° 	9 9 11 7	0 95 1.07 0 55 1.10	Temperature +2° to +6°. Temperature +5°. Temperature +6°. Temperature +6°.
New Brenswick- All Stations	37	45	28	17	6.5	4	1.48	- 60%	5	1.20	Temperature +2° to +5°.
Nova Scotia— All Stations.	39	47	31	16	72	10	2.20	-55%	9	1.00	Temperature normal to +2°.
Prince Edward Island— All Stations.	39	46	32	14	62	18	1 90	60°° <sub>0</sub>	11	0.70	Temperature +2.5°.

## FREE AIR DATA

## REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43° 8' N , Long 80 47' W.) on November 7th. 1913

Instrument—Dines Meteorograph, Beginning of Ascent—La.m. G.M.T. Barometer—735.5 mm. Temperature = 5.3° C.

Temperature = 5.3° C.
Direction of flight at Beginning—North.

Fell—340 km. distint N.65 E Maximum Height 12.5 km. Minimum Temperature —64.5 ( ...

Height in km. above S.L.	Pressure in mm.	Temperature in (	Centigrade degrees
G.L. = 0.3	735.5		5.3
0.4 5	720		5 0
0.5	715		4 8
1.0	672		9.0
1.5	633		
1.7	620		6.5
2.0			5 0
2.2	596	4 0	2.5
2.5	579	3.5	0.5
	558	3.0	0 0
3.0	523	0.5	1.0
3.5	491	- 2.0	- 3.5
4.0	462	- 5.0	— 6.0
4.5	<b>43</b> 3	— 7 <b>5</b>	- 9.0
5.0	404	-10.5	-12.5
5.5	378	-14.0	-16.0
6.0	353	18.5	-19.5
6.5	331	-23.0	-24.0
7.0	308	- 27.5	-28.5
7.5	287	-31.5	-32.5
8.0	267	-35.5	-36.5
8.5	248	-39.5	-40.5
9.0	230	-43.0	-44.5
9.5	213	-47.0	48 5
10.0	198	51.5	- 53.0
11.0	170	59 5	- 60 5
11.6	155	- 63.5	-64.5
12.0	144	63	. 5
12.5	134	-62	5

An area of high pressure was moving northwest along the Atlantic scaboard, and an area of low pressure was advancing from the northwest, giving southerly winds and mild weather over Ontario.

203

## WINDS, NOVEMBER, 1913

PROVINCES AND STATIO	N.S	Total	Greatest	Greates	t Mileage ii	a 1 Hour	Nu	mber of Da	ys of	C
I ROYLNCES AND STATIO.		Mileage.	Mileage in 24 hours.	Miles	Direction	Date	Gales	Strong Winds	Fresh Winds	General Direction
Ввітічи Согимвіл.										
Atl n Prince Rupert Victoria Point Garry Vancouver Kamloops		6139 7569	445	42 41		6	6 4	7	10 7	N & W
PINERLY										
Fdmonton Calyary		3150	214	16	NW .	i-11			6	sw
SASKATCHEWAN.										
Battleford Prince Albett Swift Current Qu'Appelle		3465 -8352 -8086	29 541 436	16 29	SE SW	9		15	5	S & SW
Manitoba.	1									
The Pos		5679 8568	402 476	29	NE.NW	7		14	·· ii	W SE
ONTARIO.										
Port Arthur White River Cochiane Parry Sound Son hampton Peleo Elmid, Woodstock, Google Ottawa Stonedille Kimston, Marchile Kimston,		2576 4977 6611 7803 * 9307 8754 9955 9140 10310	270 4 43 407 4 56 1060 1 133 564 485 650 259 491	25 24 36 01 36 40 40	E STANDER	10 25 9 9 10 9	1 9 7 7	3 6 12 7 10 12 15	13 15 13 7 5 10	SW S & W SW & W SW SW SW SW
Queber.										
Montreal.		11322	705	41	NW	1	4	16	8	sw
Sherbrooke Quebec Father Point. Anticosti, SW. Harrington		9458 11700	721 887	46 52	NE SW	. 9 I	5 7	14 15	77	SW & W W
NEW BRUNSWICE										
Pt. Escuminac . Fredericton St John Pt. Lepreaux .		12297 5837 10423 13159	943 471 605 837	50 37 41 40	NW NW NW NW	23 23 23 23	19 1 9 14	3 8 12 12	6 12 6 4	NW W SW & NW NW
Nova Scotia										
Yarmouth .		9420	595	32	NE & SE	2-9	4	14	19	SW & W
Sable Island		8564 8361 13095	505 458 1076	37 56	SE	y .	3	16	6	NW SW W&NW
Prince Edward Island					1					
Charlottetown		5798	459	30	sw	1	ī	6	11	s₩
* Record for 21 days only.	Beenr	d for 22 c	lavs only							

<sup>\*</sup> Record for 24 days only. . . Record for 22 days only.

# TEMPERATURE AND PRECIPITATION AT STATION'S IN THE DOMINION OF CANADA. NOV., 1,000.

\*Stations not furnished with Registering Thermometers

			ęŧ				Tem.	PERATIF	£		1	10E: 1:11.4	.a.s	111			_
STATION.	Lantande N	Lory Body W	Pleviorion allove sea Flevel in feet	Mo a	Pulference from	Ars Observations	7	100	Lowert	Date. Value sada care		hale or or from	Bearing fully north	as with there	No of fair days	co of purities	No. of theinterstormer. No. of tops
Ви изи Согемви-												_	-	-		-	1. 1
S. Fancouver Island Aborm Beaver Creek ( Clayo puot Obobe Cobble Hill Cowichas (Tzeshalem) Departure Bay	42	7 3 7 11 121 1 11 123 1 21 12 42	30 27 177	4) 2 4) 2 4) 3 4) 4 4) 5	1 %	1.	511 1311 1418	4	24 2 2 2 2 2 2 3	1 -			4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1
Ladysmith Nabaimo Nanoose Bay. Salt Spring Island Shawaigan Lake Shoke Victoria	45 3		107 150 25 25	4 1 1 12 6 10 9 41 2 4 1 42 5 41 0	11 1 - 1 1	13				21 21 11 11 21 21 11 21 11	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				11		. 2
N. Vancouver Island Holberg Quatsuo Trangle Island	\$1 1 \$2 2		1,811	42 4 41 -		1.			13	ii d	! ī	i		-	1 - 1		
Lower France River Acts z Chiliwack Hope Ludger New Westminster North Nromen Pomberton Hatchery Pemberton Meadows Ruskin (Stave Talka) Steveston(Garry Poant) Vancouver	# 1 1 49 1 49 1 50 .	14	52 21 500 3.00 5 ( 125 136	4 - 1 1 - 4 1 - 1 11 - 4 41 - 5 11 - 6 11 - 7 41 - 7 41 - 7 42 - 1	1 / - 1 / - 1 / - 1 / - 2 - 4 / - 4 / - 4 /	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 56 	12 12 14 14 15 15 16	24 1 26 1 27 0 12 0 12 0 12 0 12 0 12 0 12 0 12	15 12 15 9 13 10 3 21 10 21 57		1 - 1 i - 1	0 1.7 2 1.25 6 1.44 1.40 1.25 2.61	11 21 21 21 21 21 21 21 21 21 21 21 21 2	17 5 8 15 15 12 14		5 1 1 1 5 1 7
Cppr Fraser River Babine Lake Barkerulle Barkerulle Clalentin (Big Creek) Fort George Fort St James (Stuarts Lake) Hydraulic Quesnelle	54 2		41-1 3100 2280 1700	2 / T 25 / T 25 / T 27 / T 28 / T 27 / T	-1:	Total Action	44 48 1 45 1 45 1 55 5	11 5 4-5 0 10 -7 5	4.5 15. 5. 1.1 6.5 12. 15.	21 1 21 12 22 2 2 15 2 15 2 15	i i.	-0.7	1 20 0 30 0 2 1 10 2 1 14 2 12 3 2	11/4	2. 17 2. 13		
Okanagan Falley Duck Loke Ranch Hedley Hedley (Nickel Plato) Keremeos Kelowan/Okanagan Mission- Princeton Richlands Summerland Vernon (Coldstream Ranch	50 49 3 49 1 49 1 49 2 45 2 49 3 59 1	5 12 0 5 17 73 9 139 35 9 120 29 6 119 40	140 1 1571 1. 72 1200 1650 1100 1582	06.2 06.3 06.4 06.4 06.4 06.4 06.4 06.4 06.4 06.4	-1: -1: 	1 1 1 1 1 1 1 1 1	5 0 5 0 50 0 50 0 50 0 50 0 51 0 47 0 41 0	1 24 · · · · · · · · · · · · · · · · · ·	23 / 1 / ( 2 / 5 22 / 22 / 11 / 12 / 21 / 11 /	12 4 4 12 1 (2 13 1) 1 1 1 1 10 12 4 1 1 12 1 1 1 14 17 1 1 14 12 1 1 14 12 1 1 14 12 1	1		1 7 1 1 1 25 1 14 1 0 5 1 0 5 1 1 20	11 4 6 10 7 3 10 10 10 10 10 10 10 10 10 10 10 10 10	170 47 237770		
West Kontenary Crawford Bay Creston Grand Forks Growwood Growwood Kasto Nakusp Nelson Pend d'Oreil'e (Wareia) Perry Suling Rossland	40 5 40 2	2 118 27 1 115 0	2000 1746 24 = 1 1752 1760 2244 1700	35 1 34 1 33 6 33 7 35 7 35 1 34 9 34 9 32 5	1 4	3000001401011	47 ( ) 40 ( ) 40 ( ) 57 ( ) 15 ( ) 40 ( ) 41 ( ) 41 ( ) 42 ( ) 43 ( ) 43 ( )	2 10 6 2 10 2 3 2-11 4	21 0 15 0 19 0 19 0 20 0 20 1 21 1 15 1 20 1	11	31		0 57 1 07 1 07 1 07 1 57 1 57 1 57 1 57 1 57 1 57	16 17 15 1 1 17 18 15 15 15 15 15 15 15 15 15 15 15 15 15	14 13 15 17 2 14 10 12 15 14 15		
East Kootenuy Cranbrook Elko (Fruitlands) Invermere. Wilmer Thompson River Armstrong.	51 5 50 3	1 1.5 5 1 116 2 4 11- 14	2684 (65) 35()	25	12		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 17 4 5	15 to 12 17 17	22 20 1 11 12 1 21 12 4 11 11 12 12	1	1 = 50 1 = 1 = 1	155 155 140 140 175	X6 40 152	11 10 11 18		
Harper's Ranch Kamloops Monte Creek Nicola Lake Salmon Arm Salmon Arm Tappen Tranguille	53 4:	9 12 58 2 112 13	1245 2120 1152 1350	17 2 13 1 13 1 14 1	+ 2		60 31 31 31 31 41 41	15 1 19 17	18 1 14 0 19 1 10 1	15 4 0 15 15 1 1 16 4 1 1 1 12		- 0.70	15	9 7 13 12 19	21		1
Tranquille Vavenby North Columbia River Fauquier Glacier Golden Revelstoke	50 4 51 .	110 15 1117 29 1 118 8	145 + 4072 1476 2550	57 5 25 7 29 6 38 1	: 0 5 + 1 3 - 1 1	111111111111111111111111111111111111111	50 0 50 0 50 0 50 0 50 0 50 0	1 15 10 4 6 6-11 5	11 1	13 1 7 14 2 3 21 22 1 4 14 1 4	1 -	· 1 42 · 0 73 · -2 16	100	6	14 18 25 25		

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, NOV., 1913.

\*Stations not furnished with Registering Thermometers

				æ				TEMP	EBATUI	E -			PRE	IPITAT	ION	more			ā	
STATION.		Latitude N.	Longitude W	Elevation above sea level, in feet	Mean.	Difference from average.	Yr's Observations.	Highest.	Date	Lowest	Date.	Mean daily range.	Amount.	Difference from	Heaviest fall in month.	Days with 0.1 or m	No. of fair days.	No. of auroma.	No. of thunderstorms	No. of fors
British Columbia-Con.	_						_								1	-	_	-	-	
North Coast	۰	,	۰,																	
Beila Coola Prince Rupert Stewart Terrace .	54 54 54 54	18	126 54 130 18 130 1 128 30	150 170 215 545	36 7 42 6 32 7 36 5	+ 0 7	14 4 3 2	47 5 64 0 45 0 <b>52</b> 0	2-4 8 8-9 2	28 0 30.0 8 0 22 0	15 17-18 21 21	7 6 9 3 8 1 8 5	9 35 14 60 8 82 6 14	+1 76	1 58 1.72 1.20 1 63	19 24 18 16	11 6 12 14	::	i	. 2
Queen Charlotte Islands																				
Ikeda Bay	52 53		$\begin{array}{ccc} 131 & 7 \\ 132 & 9 \end{array}$	5 10	43 <b>4</b> 38 <b>4</b>	$-\frac{1}{2} 0$	6 16	56 0 50 0	1-18	31 0 28 0	21 21	8 3 10 8	21 15 12 06	+6.44	3 48 1 85	28 20	10	::	::	:.
Yukon Boundary																				
Atlin	51	35	133 38	2240	23 6	-	8	41 5	14	- 8 O	17	9.3	0.86	-	0.30	9	21	1		
Y UKON Carciosa	60	11	134 34	2171																
Dawson.	64		139 29	1200													::			
LAERTA -													1							ĺ
N. Saskutchewan River Campate Coronaton Coronaton Edmonton Eadiane Halkurk (Emsburg, Lloydminaster Loveland Ranfurly (Wattefield) Sion. Vermilion Wastina Wetaskiwia.	55 63 52 52 52 53	52 33 0 17 30 29 54	114 42 112 17 113 30 112 0 112 10 111 59 111 38 114 15	2158 2795 2000	24 3 28 5 30 2 27 6 6 28 8 26 0 26 3 23 5 25 5 26 8	+60	2 3 30 3 4 4 8 2 1 1	51 9 57 0 58 7 59 0 54 0 55 0 52 0 57 0 58 0 55 0	15  3 4 3 3  3 4 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 3 4 3 3 3 3 4 3	$\begin{array}{c} -10.2 \\ 0.0 \\ 3.0 \\ 0.0 \\ -2.0 \\ -4.0 \\ -4.0 \\ 3.0 \\ -3.5 \\ -14.0 \\ 2.0 \end{array}$	22 21 22 22 22 22 21 21-22 13 22 21	23 4 22 6 21 3 22 3 24 0 23 4 24 4 22 0 26 8 27 6 23 0	0.11 0.07 0.07 0.05 T 0.05 T 0.07 0.20 0.20 0.00	-0.78 -0.78	0.10 0.07 0.03 0.05 T  T 0.05 0.08 0.08	2 1 3 1 0  0 2 5 	28 29 27 29 30 30 28 25 29 29	3 4		1 · · · · · · · · · · · · · · · · · · ·
The Red Deer River																				
Alix Clemens. Delia Didsbury. Harmattan Hillsdown Lacombe (Ex. Farm) Perbeck Springdale.	52 51 51 52 52	38 40 45	113 10 112 25 114 8 114 23 113 29 113 44	2585  3500 2940 2783	28 4 27.7 28 7 33.4 27 4 30.1 29 3 27 8 27.8	+ 3 5	8 1 3 12 7 9 6 1	57.0 58.5 58.0 60.0 65.0 58.0 59.8 58.5 55.0	16 4 4 3 4 4 3 4 16	$\begin{array}{c} -3.0 \\ 2.0 \\ 6.0 \\ -0.0 \\ -3.0 \\ -0.5 \\ -6.0 \\ -5.5 \end{array}$	22 22 23 21–22 22 21 21 21 22 21	26.6 19.8 19.7 20.4 30.6 23.2 26.1 26.0 25.1	T 0.38 0 28 0.50 0 30 0.03 0.05 T 0.02	-0.12 -0.12	T 0.38 0.28 0.30 0.15 0.03 0.05 T 0.02	0 1 3 3 3 1 1 0	30 29 29 27 27 27 29 29 30 29	2		
The Bow River																				
Brooks	50 51 50 50 50 49 49 50	2 59 35 16 43 44 1	111 64 114 2 112 64 113 63 113 26 112 51 113 24 110 37	3427 2952 3394 3500 3128 2143	31 S 34 3 32 1 32 0 23 3 35 1 37 1 37 1 37 1 28 4 34 9	+ 6 3 - - + 8.4 + 8.7	18 10 12 6 6 16 29 1 1	60.0 61.0 58.0 63.0 45.0 66.1 64.0 61.0 78.0 59.7 50.1 64.0	15 3 3 10 24 10 10 10 4 2 4 2 7-28	3 0 4.5 - 2.0 5.0 1 0 9.0 9.0 - 5.0 8 0 5.0	21 21 21 21 22 14 13 29 22 	23 6 24.8 23.0 21.0 24.9 23.7 17.2 21.4 26.1	0.97 0.87 0.35 0.45 0.36 0.20 0.10 0.23	+0.25 	0.52 0.60 0.20 0.20 0.20 0.20 0.06 0.18	3 3 4 1 4 2 2	25 26 27 27 26 29 26 28 28 29			
Rocky Mountains																				
Banff Brazeau Forest (Coal Spu	51 r) . 49		115 34 114 30	4542 4225	28.2 20.3	+ 4.2	18	44.0 51.0	3 2	- 5.6 -17.0	21 17	13.9 39.3	2.38	+0.71	0.67	13	17	ï	::	::
Athabasca River																				
Athabasca Landing Lunnford. Pembina	. 54	43 33 12	113 17 114 19 114 0	1650	24 9	<del>-</del>	10	52,0	3	- 8.0 		22_1	0.25		0.25	 	29 	::	::	::
Peace River Beaver Lodge		20	110.00		23 9		7	59.0	3	-20.0	18	24.3	0.51		0.25	[3	27	3	ĺ	1
Beaver Lodge Ounvegan Fort Vermilion Fort Vermilion (2) Irand Prairie Peace River Crossing.		56 27	119 24 118 35 116 3	1306	23 9		6	50.0	15	-20.0		18.6	0.30		0.28	i		::	ï	••

TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMENION OF CANADA. ...O. 100

\*Stations not furnished with Registering Thermometers

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				96. 10.				1 2 3 1 1	DATE I	L			1.10	ECIPITALIO	DN.	10.11			FILIS	
STATION		Latitude N.	Longitude W	Elevation above level, in feet.	Mean.	Difference from average.	Yr's observations	Highest.	Date.	Lowest	Date	Mean daily range	Am-unt	Difference from average.	Beavest fall m nouth	Parswerh Clor	No of face days	No of Auroras	No of thunderstorms	No of form
SASKATCHEWAN-																				_
Qu'Appelle River	0		0 /																	
Broadview Brownhill (Grenfell P.O.). Crescent Lake Estevan Fort Qu'Appelle Hubbard (Drumngue) Humboldt Imperial	50 50 50 49 51 52	59 12 59	102 33	1960 1957 1658 1858	28 5 25 5 31 9 30 0 25 6	+ 4 8 + 4 5 + 7 9	14 10 14 2 6	57 0 52 <b>8</b> 48 0 56 8 50 0	4 5 7 5 17	- 0 8 14 0 3 0 1.0	14 22 1 14 13	19 5 21 6 16 0 23 0 17 3	1 00 0 70 0 20 35 0 40	-0.15 -0.19	0 60 0 30 0 10 0 10 0 20 0 31	4 1 5	26 26 29 25 27	1		
Imperial Indian Head Kamsuck, Moose Jaw Moose Jaw Moose Jaw Moose Tiger (St. Peter's Mon.) Pilger Pense (Gatesgarth.) Ou'Appelle Regina Yarbo (Fairfield) Yellow Grass Yorkton.	51 50 50 50 52 52 50 50 50 50 49 51	28 21 0 0 25 20 30 27 39	103 40 105 35 101 37 105 9 105 9 105 9 103 47 104 47 104 9 102 29	1924 1759 1884 1870 1879 2115 1885	27 0 33 1 27 2 24 7 25 0 30 3 29 0 27 3 24 8 25 9 26 1	+ 6 2 - 12 6 - 5 3 - 10 2 + 10 2 + 8 0 	18 11 7 3 15 29 25 6 3 4	53 0 59 0 59 0 53 0 53 0 53 0 55 0 57 0 50 0	5 10-16 5 4 4 16 16 16 16 5 5	3 0 - 5 0 - 5 0 4 0 5 0 0 0 0 0 0 0 0 0	13 13 13 19 19 12 14-22 14 21 14	24 6 23 1 19 2 20 1 21 2 47 9 20 6 21 3 24 2 20 6	0 15 1 05 0 47 0 74 0 17 0 33 0 15	0 70 0 70 0 66 -0 37	0 60 0 15 0 80 0 22 0 51 0 70	133 133333333 4	N 2017-5494 51	2		
S. Saskatchewan River																				
Anglia Chaplin Kintonel (Divide) Kelvinhurst (Nashlyn) Kindersley	51 50 51		101 10 106 39 108 10	2202 3500	2 · 6 29 · 9 34 · 7	+ 7 4	1 29 5	59 U 58 U 56 S	16 10 10	$\begin{smallmatrix} 4 & 0 \\ 2 & 0 \\ 14 & 2 \\ . \end{smallmatrix}$	20 13 12	27 c 23 1 18 9	0 50 0 02 8	0 17 	0 50 0 02 8	1 1 0	29 29 30	3		1
Larchmount (Gleobryan) Rathmullen. Swilt Current	49 51 50	21 20 20	109 29 108 57 107 45	2500 2439	30 7 25 6 33 7	+ 7 0	3 4 27	59 0 57 2 62 5	11 5 24	$-{}^{3\ 0}_{1\ 0}$	1-29 22 13	25 8 24.5 24.5	0 14 0 25 0 03		0 14 0 25 0 02	1	29 29 28			
N. Saskatchewan River																				
Battleford. Lloydminster Luseland. Onion Lake Prince (Meota) St. Walburg Scott (Ex. Farm) Wasea.	52 52 53 51 51 53	5 52 0	108 20 109 34 109 59 108 20 109 30 109 29	1700	27 9 24 8 24 3 18 5 23 9 24 8	+ 8 9	23 4 6 2 5	55 0 55 0 55 0 56 0 55 0 56 0	5 15 4	$\begin{array}{c} 0 & 0 \\ -8 & 0 \\ -4 & 0 \\ -0 & 4 \end{array}$ $\begin{array}{c} -8 & 8 \\ -1 & 0 \end{array}$	19 19-21 21 15-21 21 21	18 2 24 9 25 3 22 3 24 6 21 7	0 10 0 40 0 00 0 05		0 40 0 40 0 10 0 10 0 25 0 05	1	29 29 51 29 29 29			3 . 3 . 2 .
The Saskatchewan Forks																				
Melfort Prince Albert Rosthero Saskatoon	52 53 52 52	47 10 40 15	104 30 106 0 106 20 106 30	1432 1657 1571	23 7 25 8 22 4 25 2	$+\frac{7}{7}\frac{5}{8}$	8 29 3 12	51 0 55 0 52 9 54 5	4 5 5 5	$\begin{array}{c} 4 & 0 \\ 2 & 0 \\ - & 4 & 1 \\ - & 3 & 5 \end{array}$	13 19 19 19	17.2 19.2 19.5 21.1	0 20 0 31 0 34 0 65	$-\frac{0}{0}66 + 0.15$	0 10 0 20 0 25 0 65	2 3 2	05 27 5 5 27 5 5 27 5 5			
Lower Saskatchewan River																				
Lost River	53	17	104 21		23 6	-	3	52 0	5	2.0	2.3	18 6								
Manitoea— Qu'Appelle and Assinibotine Rivers																				
Aweme (St. Albans) Boissevain. Brandon	49 50 49 49	42 25 51 31	99 33 101 1 99 57 98 0	1180 1703 1176 872	3) 1	+ 2 0 + 6 7	29 26	59 5 59 7	5 5	2 0 - 3 0		21 J 23 b	n 34 n 29	-0 42 -0 52	0 12 0 20		23 27			
Cyprees River Hillview Minnedosa Ninette Ninga Norgusy	49 49 50 49	33 55 15 24 14	59 3 100 33 99 50 99 38 99 51	872 1232 1400 1699 1363 1649	26 5 27 6 34 9 31.1	+ 7 0 + 6 4 -	28 30 2 3	5× 0 54 0 64 0 57 0	5 5-6 20 5	$-\frac{1}{5} \frac{0}{7}$ $-\frac{5}{13} \frac{7}{0}$ $-\frac{1}{9} \frac{0}{0}$	14 14 14 13	17 9 20 1 18 9 17 9	1 1 c 1 07		0.60	5	25 23			4
Pipestone Portage la Prairie Portage la Prairie (2) Russell Souris	49 49 49 49 50	11 34 57 56 59	101 5 100 58 98 17 98 17 101 20	1531	30 9 26 1 28.3	+ 8 1 + 7 8	19 20 2	50 0 50 0	6 	9 0 0 0 3 5 8 0	:4	18 1 17 7 18 1	0.47	-	0.00					
Virden	49 49	36 51	98 40 100 55	1212 1444	31.8	+ 10 3	18	5% 0	5	5.0	14	1 6		-141	0.25	-1				-
The Red River																				
Almasippi Morden Oak Bank Stony Mountain Winnipag	49 49 49 50 49	14 11 57 40 53	99 20 98 6 96 42 97 14 97 7	978 800 803 760	32 4 33 0 30 6 29 8 31 0	+ 2 3 + 5 9 + 3 5 + 10 0 + 9 5	15 10 17 31 38	63 0 64 0 54 0 58 0 55 9	5 6 4 6 5	4 L 5 H 0 5 2 O 6 7	1 # 10 10 10	15 4 15 1 16 1 21 5 14 1		0 27 0 83 - 0 68 + 1 66 0 33	0 42 0 25 0 10 0 11 0 10	3 1 1	27 29 26 27 23		1	

\*Stations not furnished with Registering Thermometers.

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STATION	I attinde N	Longitude W.	Llevatom above sea   Level, m feet	Mean.	Difference from	Ar's nibservations	Brekest	Date	Lowest	I ate	Mean daily range	Amount.	Difference from average	Beaver fall in roonth	I ays with .01 or more.	No of fair days	No. of auroras	No. of thunderstorms	No. of fees
Maniroba Continued																			
Dauphin Lahe and Recei Berens River Dauphin : Morse Hoth Bay Cytkens v lls)	52 IS 51 8 51 15	99 33	716 957	26 4 27 8 25 7		7	45 0 57 0 54 0	27 6 5	- 1 0 , 0 5 0	22 23 14	17 5 19 2 16 7	0 95 0 60 1 13	_	0 ×0 0 30 0 35	3 2 8	27 28 22	::	::	2
Latte Winnipagasis Le Pas	52 6	101-15	1112	2E 7	_	ı	53 2	4	3 0	9	lo 9	0.34	_	0.31	7	23	1		1
ONTARIO The Lake Superior Districts Raining River Fort Frances Keren Shull Lake	49 45	b 32	1102	33 4 29 5	+ 11	1 12	55 tt 48 0	2-5 b	4 U 4 U	10	11 7 10 0	1 25	- +0 23	0,49 1 04	5 2	25 28	!		3
Thunder Eary Kakabeka Falls. Port Arthur Schreiber Hummi	18 20 18 27 18 50	89-26 89-12 87-15	912 644 933	31 0 33 2 32 1	· 6 0	33 11	56 0 54 n 61 1	ā ā	0 0 1 0 - 5 5	10 10 10	19 2 15 6 17 5	1 20 1 27 5 14	0.04	0 63 0 36 1 36	8 10 11	22 20 19			3
Birco Bruco Minos Chaple in Copper Chifi Grassett Haron Bay Porconnico	47 10 46 18 46 30 45 40	82 11 83 55 80 59 82 11	1333 395 	32 0 37 2 31 5 31 6 31 9 	+ 1 2	1 15 1 1 1 1 2	55 1 58 0 55 5 60 0 55 0 55 0 54 0	22-24 22-24 27	7 I 16 0 10 0 16 0 0 0	10-11 20-27 21 11 	11.8 15.9 15.5 15.5 17.1 17.0	1 80 2 04 1 25 0 82 2 87 1 62 1 89		0 65 0 82 0 40 0 46 0 90 0 55 0 70 0,74	10 5 4 3 9 5 8	20 25 26 27 21 25 22			:: 2 :: 1
Providence Bay Francous (Sandy LaPs) White River Nipissing Cheliane Hadeybery	48 35 49 2 17 29	85 10 81 0 79 30	946 687	27.4	+ 5 1 + 5 1	1 2 22	51 0 52 0 51 0 57 3 51 2	22 6 11 5 7 5	$-\frac{200}{3.5}$ $\frac{5.5}{1.0}$ $-\frac{3.0}{13.1}$	97 27 27 27 27	11 1 15 1 18 3 15 3 11 6	2 35 5 94 2 45 3 70 3 01 5 62	-0 19	0 95 0 60	4 15 19 8 14	26 15 20 22 16	::	i	
Troques Fills Wentreal River	48 45 47 8	80 10 79 25	550	33 9 29 9 31 3		3	54 2 62 0	25	13 1 5 2 10 0	27 12	11: 6 13: 9 17: 8	3 62 2 55	_	0 64 1 22 0 53	13 9	17 22	::	1	:::
Upper Ottawa River Ruthergien (Lake Talon) Stoneghif (Rockhille)	46 - 15 16 - 9	71 18 78 6	577	33 3 35 0	+ 1 7 + 5 7	21	63 5 57 0	22	11 5 16 0	25 27	11 6 15 3	2 50 3 55		0 69 0 82	5 14	25 16	1	3 1	
Upper St Lawrence and Lower Ottawa Rivers Almonte Bhomfield Hiller Kingston Wontague Mortrichurg North Gover Ottawa Reafrew	15 12 13 59 14 13 14 56 45 8 45 26	76 13 77 21 76 20 75 57 75 43 75 42 76 30	3 10 201 2×5 2×14 416	37 8 41 1 41 0 41 2 35 2 37 6 35 0 37 6	-45 +51 -31 -45	11 11 11 11 11 11 11	63 7 64 0 55 0 60 0 62 0 66 0 67 0 64 6	22 23 9 9 8 8 8	15 4 22 0 21 0 22 1 15 0 13 2 17 0 18 0 15 0	27 27 27 27 27 27 27 27 27 27 27 27 27 2	14 4 13 8 9 4 19 8 	3 18 3 75 1 45 2 17 2 59 3 37 0 93 3 13 2 57	=0 40 =-	0 79 1 64 0 90 0 90 0 98 1 03 0 61 1 69 0 67	10 8 3 14 8 9 3 11 10	20 22 27 16 22 21 27 19 20		i 1	
Georgian Bay Counties Barrie Routine Big Clinte (B.1-ki) (P. () ) Coolwader Collingword Gravenhurs Houtsvelle Mulland 1 Markelale Mufford	14 23 15 8 41 5 41 38 44 31 41 54 45 19 44 44	79 441 79 20 79 20 79 40 50 2 79 20 79 8 79 53	839 810 655 610	37 8 37 9 37 3 37 3 37 4 43 5 38 7	÷ 6 7 ± 4 5 • 5 6	38 1 25 42 42 6 2	62 p 64 p 65 p 61 p 62 p 66 p	22 23 22 23 7 22 20 20 20 20 20 20 20 20 20 20 20 20 2	20 0 21 0 13 0 2 0 2 0 3 0 2 0 2 0	12 26 27 12-27 27 4-10 10-16	14 1 11 2 17 5 15 8 14 0	4 54 4 52 3 87 3 10 3 91 5 36	-0 53 -0 26 -0 73	1 40 1 49 0 72 1 14 1 22 2 17	10 9 10 13 11 9	20 21 20 17 19 21		i i	
Ordlin Owen Sound Parry Sound Ronville	44 07 14 34 15 19 45 15	79 24 80 55 80 -0 78 57	775 597 635 1038	35 8 38 4 36 6	+ 6 7 + 1 9	22 37 6	65.0 60 µ	22	20 0 20 0 18 0	2" 12-27 11	13 7 11 4 11 1	4 14 3 84 3 49	-0 39 -0 16 -	1 47 1 05 1 33	8 14 13	16 17		2	••
Lake Huron Counties Birnam Clinton Clinton Guderich Lucknow North Brace Southampton	13 32 43 45 13 56 14 23 44 30	81 55 81 37 81 41 81 30 81 25 81 21	6 10 90~ 656	40 9 30 6 30 7 33 2 40 2 41 5	+ 4 5 + 4 7 - 3 9 + 2 1 + 4 0 + 4 b	2 1 11 23 27 25 37	66 8 65 0 64 5 63 0 65 0 65 5	23 23 23 21 21 21	23 0 23 0 24 0 20 3 26 0 26 1	10 12 12 12 12 27 10-28	11 1 11 6 10 3 13 2 14 0	2 90 4 27 2 75 4 30 2 91 3 32	-0 76 +0 57 +0 38 +0 18 -0 32 +0 07	1 11 1 27 1 09 0 75 0 72 1 12	5 15 13 14 10 16	25 15 17 16 20 14		2 1 2	4 4 3 2 1
Lakes SI Clair & Frie, Nogara Peninsula Chatham Cottam Datton Grinslav Pelos Island Port Rarwell Fort Rarwell Port Studey St. Catherins St. Catherins St. Catherins Wallaceburg Welland Window	42 23 12 7 13 13 13 14 55 14 2 37 14 15 15 14 15 15 14 15 15 14 15 15 16 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	\$2 12 82 45 71 36 82 35 80 55 80 18 81 12 70 17 79 45 82 24 79 17 83 4	5%5 806 - 585 5%5 5%5 5%7 202 577 6%5	40 3 42 9 41 6	+ 3 9 + 0 3 - + 2 6 + 3 5 7 2 5 + 3 5 + 5 8	27 26 1 3 3, 39 27 8 27	71 0 67 0 68 5 67 0 58 0 60 5 57 0 67 0 66 0	22 22 21 7 7 22 6 6 21-22 7-21	21 0 11 0 15 0 25 0 27 5 10 5 20 5 27 0 17 0 23 0	10 11 12 10 11-12 11 10  11 11 11	14 8 21 2 15 9 10 7 12 7 10 0 12 9 14 2	0.98	+0 21 -1 41 -1 64 -0 54 +0 43 +0 13	1 50 0 70 0 40 0 90 0 90 0 74 0 98 0 73 0 38 0 77	10 8 16 18	22 14 12 22 25 18		1	6

\* Stations not furnished with Reg - 2.

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STATION	Latitude N	Elevation above sea level in feet	Mesia	Pufference from	A r's Observations	100		Hew :		Maria a		1 Terence from					- 1 1 2 materials
Oxt.mio—Cont.nued— West-Central Counties Alton Brantford. Guelph Listowel. London. Peris Shelburne Stratford. Woodstock	13 51 80 43 10 80 2 43 41 80 2 43 44 80 5 42 59 51 1 43 12 80 2 43 23 81	1 1274 1050 5 1262 1 808 5 810	57 6 7 1 4 7 0 4 1 7 4 4 7 0 4 1 7 4 1 7 0 7 1	- 4 h 2 + 5 h 3 h 4 2 h	27 11 12 12 14 44 41	64 2 67 1 14 1 13 1 14 1 14 1 14 1 14 1 14 1 14		15 1 21 1 21 1 1 1				1 11					
Lake Ontario Counties Agincourt. Auroris. Hamilton. Oshawa. Toronto. Toronto Is (Lakeside Home) Uxbridge. Wesford.	43 47 79 1 43 57 79 2 43 16 79 5 43 53 75 5 43 40 79 2 43 40 79 2 44 5 70 43 44 79 1	4 886 4 <b>3</b> 03 2 331 4 350 4 886	4 5 2 5 5 2 2 2 4 5 5 5 5 5 5 5 5 5 5 5	+ 1 1 5 1 - 4 8	17.	14 16 167 (1 160 (0) 162 (1) 163 (1) 163 (1)	2	21 21 21 21 21 21 21 21 21 21 21 21 21 2									
East-Central Counties Buncroft Haliburton Kumuount Lakefield Lindsay Madoe Norwood Peterboro' Uran	45 1 77 5 45 1 75 2 44 45 8 3 44 25 75 1 44 20 75 4 44 30 77 2 44 17 75 1 44 54 78 1	8 1050 8 920 5 850 5 872	31 5 34 × 341 m 441 · · · · · · · · · · · · · · · · · ·	+ 5 1 + 5 1 + 8 2	11 11 11 11 12 41	60 0 62 0 68 0 63 0 64 0 64 0	44.4	12 15 0 2 1 13 20	1  -  -  - 		1	2.39	3 11 - 11 - 12				) 
QUEBRC Middle St. Lawrence Beauceville. Hrome Cap Rouge Cedar Rapids Drammondville Hulerdean Montreal Nicolet. Quebec. Sto. Anne de Bellevue Shawbridge Shawningna Falls Sherbrooke.	46 11 70 4 45 10 72 3 46 46 71 1 45 55 71 2 45 55 71 2 45 55 71 3 45 30 72 0 45 59 74 4 46 15 72 3 46 48 71 1 45 27 73 2 46 34 72 4 46 34 72 7	678 132 1 896 1 900 5 187 5 296	34 4 36 8 33 4 37 3 4 38 9 38 9	+ 5 5 - 7 - 7 - 7 - 4 5 - 7 - 7	1 3; 1 1 1 1 1 2 1 2 1 2	67 0 64 0 61 1 61 0 60 0 62 0 62 0 62 0 61 2 61 2	24 29 2 + 24 23 4 23 4 24 25 26 26 26 26 26 26 26 26 26 26 26 26 26	6 + 1 + 0 + 1 + 1 + 0 + 1 + 1 + 0 + 1 + 1	10 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 m			-1.4					
Lower St. Lawrence & Gult Anticosti E. Pt Anticosti, S.W. Pt Anticosti, S.W. Pt Biequet Cope Chatte Cope Chatte Cope Magdisen. Caranseal. Father Point. Ste Anne de la Pucatiere Tadoussae	49 52 64 3 48 25 68 5 49 6 60 4 49 16 65 2 48 21 67 1 48 31 68	2 30 30 30 30 30 30 30 30 30 30 30 30 30	32 5 31 9 35 1 49 4 13 1 13 1 34 3 31 5	+ 6 2 + 1 5 0 + 5 0 - 2 0 1 6	.2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2	\$7.0 \$7.0 \$1.2 \$1.2 \$1.2 \$5.0 \$5.0	5 (1) 10 10 9 11 11 10 10 10	17 0 0 17 1 17 1 17 1 18 1 19 5					4 21	1)			2
Lake St. John Chicoutimi Chicoutimi (2) Lake Edward La Tuque Mistassini	47 39 72 1	5 1333 5 520 5 360	31 6 30 7 31 8 30 6		31 3 2	34 P	1: 11 1	- 1 2 3 "	2. -1.							4	
The Northwestern Districts Abitihi Amos Manouan Crossing Temiskaming Weymontachingue (Dam A) White Shore Lake	48 33 79 3 47 54 73 5 48 12 75		30 1 01 4 14 2 27 2		1 1		/-		- 1 1		2 "		1.1		.1		
The North Shore Clarke City	50 10 16 3	25															1
Charke Orty  Naw Bronsewick— Charham Dathousie, Federicon Fredericton (Ex-Farm). Grand Falls Moncton Point Lepreaux St. John St. Stephen Sussex	47 3 65 1 48 4 66 1 45 57 66 1 46 9 64 45 4 68 45 17 66 45 17 66 45 11 67	21 31 164 106 15 30 4 70 4 70 4 76 35 36 36 38 96	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	- ; ;	1		1 1 1 1					1 1 1 2 2 2					1

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, NOV., 1913.

\*Stations not furnished with Registering Thermometers.

				sea				Темп	ERATU	нЕ			PRE	CIPITAT	ION	more			ğ	
STATION	Latitude	annua -	Longitude	Elevation above se level, in feet	Mean	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range	Атоли	Difference from average	Heavest fall in month	Days with .01 or mc	No. of fair days	No. of Auroras	No of thunderstorm	No. of fogs
Nova Scotia— Advocate. Antigonish Hahfax Kentville. Kentville (2) Liverpool	45 44 45 44	38 39 3	61 59 63 36	50 88 40	39 <b>3</b> 38 <b>5</b> 40 <b>1</b> 36 0 38 <b>5</b> 42 6	+ 0 4 	2 3 38 2 1	64.0 65.0 67.4 65.0 65.0 66.0	10 8-11 7 23 10 3	12-0 13 0 20 6 17.0 21 0 13.0	3 29 3 3 3-30 4	16 9 19.0 17 2 14 8 13 5 23 4	1 99  2.78 1 78 1.97 2 38	-3 10 -3 10	0.85 1 00 0.74 0 64 0.82	7 8 6 10 7	23 	1	::	1 1
Mengonish Nappan New Germany. Parrisboro' Port Hastings 'Sable Island, E. Pt Sable Island, (Main Station) Sydney Traro Truro (2),	45 45 43 43 46 45	23 39 58 57 10 22 25	64 19 61 22 59 46 60 6 60 10 63 18 63 15	40 45 25 25 25 35	38 1 38 1  44 3 39 2 38 0 37 8	+ 0 6 + 0.3 + 1 9	23 40 41 2	65 0 72 0  59 0 61 5 65 0	10 2  10 11 9	10 0 16.0  28 0 14.5 11.0 9.5	29 28  28 29 29	9 0 14 4 17 6 19 7	1 67 2 18  1 98 2 06 3 22 3 43	-3.70 -3.38 -1.03	0.43 0.73 0.73 0.41 0.42 1.32 1.16		23 25  15 18 18 21			4
*Whitehead Windsor Wolfville Yarmouth P. E. ISLAND—	45 44 45 43	15 59 7 50	61 8 64 6 64 20 66 2	20 90 65	39.2 39.3 41.9	+ 1 7 + 2 1 + 1 7	11 14 33	67.0 69 4 65 0	8-24 23 9	16 0 19.9 15 2	29 29 28	15 4 13 5 13 6	1 92 2 03 1 20	-1 18 -2 01 -3 78	0.82 0.94 0.46	9 7 9	21 23 21	::		
Charlottetowa (Exp. Farm) Hamilton Summerside	46	14	63 10 63 7 63 48	38 75	38 6 38 8	+ 2 5	38	60 0 62 0	16	22.0 18 0	28-29 29	11 9 15 3	1.74 2 09	-2.66	0.67 0.70	10	18 	::		
Newfoundland  **Amour Point  Burin  Cape Norman  Eogo Point Riche  Fort aut Basques  St. George's  St. John's	47 51 49 50 47	0 38 43 42 35	56 51 55 10 55 52 54 17 57 25 59 10 52 42	27 30 35 27 125	33 6 35 3 40 6 36 0	+ 1 3 - 1 6	29 4 26 39	55 0 50.5 67 4 58.0	10 11 19 11	15.0 17.5 19.8 15.0	27 29 28 29	10 0 14 9 12 2	0 74 3 58 1 60 2 38	-3.77 -3.66	0.45 0.64 0.35 0.40	9 20 12 10	21 10 18 20	::		1 4 2 2
BERWUDA— Prospect	32	17	64_46	151	67.7	0 5	22	77 6	10	51 0	<b>z</b> 5-26	10.4	11 36	+7 04	3.62	20	10		2	

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING NOV., 1915.

-		R	AINFAI	.t.			SNOW	FALL.	,	
STATIONS.	Amount in inches.	No of Days .01 or over.	No. of Fair Days.	Heaviest Fall in Month.	Date	Amount in inches		Heaviest I all in Month.	Date	REMARKS
витин Солимви.—										
Alkali Laka										
	1.52 6.32	14 20	14 10	0 39	6 15	1.0	2	0.5	23	
	11 51	14	16	1 50 2 89	23					
Denman's Island Ferguson.	13.28	17	13	1.77	25	3 0		3 11	23	
Coldatagers Inko	0 18 12 50	1 22	15 8	0 18 2 24	9	18 0	1 +	3 0 12 0 1 0	23	
Hydraulia					16 Closed	1 0 for wint	er)	1.0	20	
Hydraulio Hornby Island Invermere Jordan River Jordan River Jordan River Little Qualicum(Fr.Cr V.I.)	13 72	15	15 21	2 00 0 09	24 11	2.0	1	2.0	23	
Jordan River	0 15 15 69	23	7	2 53	15	b 3		2.0	17	
Jorden River (Bear Creek) Little Qualicum(Fr.Cr V.I.	16 96 9 95	22 12	15	4 09 1 95	16 23	12.7	5	5 1)	20	
Little Quancumer Cr V 17 Lumby Neas Harbour Rock Creek Shawnigan Lake Sooke Lake	0.83	11	15	0 19	7	6 3	4	3.5	24	
Rock Creek	0 85	5	25	0.24	17					
Shawnigan Lake Sooke Lake	i6 01	23		3 97	25	1 3		1.3	21	
Wycliffe								1.3	21	
BERTA-										
Bardo	0.00					0.41				
Bismark						0.0				
Bruederheim Bittern Luke						0.5	1 2	0.5	17 18	
Brooks Beaver Mines.	77. 10.									
Coleman	0 28 0 74	1 2 2 2	26 23	0 25 0 62	16 16	10 0 12 5	3 5	4 0	11-17 17	
Coleman Cowley Caldwell	0.20	2	23	0.10	2-26	8 5	5	2.0	17 17	
Claresholm	0.11	i	27	0.11	1	6 U	2	3 5 5 6	11 12	
Claresholm Clarinda Dorenlee (Bashaw)	0 10	1	27	0.10	2	4 U U 3	2	3 0	i 2 15	
Dunstable (Five Lakes)	0 20		28	0 20	12	2 5 2 0	6	1.0	20	
Dunstable (Five Lakes) Grassy Lake Jumping Pound	0.03	1	28 26	0 20	2 2	2 U 6 8	3	2 0 5 3	11 18	
Loch Sloy						7.6	4	4.0	12	
Jumping Pound Loch Sloy Lyndon Lincham La Pearl Lethbridge Macleoil	0 25	i	27	0 25	16	15 3	2	4 0 13 0	12 15	
La Pearl Lethbridge	0.06	·····i	27	0.06	6	0.0		1.5	12	
Macleod	0.41		25	0 21	16	9 1		6.1		
Macleod. Mayeroft Mountain View Mannville (Roycroft Ranch) Nateby	0 11	1	25 26	0 21 0 11	16 16	9 1 5 U	3	6 1 3 0	18 2	
Mannville (Roycroft Ranch)	0.00						2	*	-	
Nanton.				****		*	1		11	
uannyilie (Royeroit Ranch) Nateby Nanton Dkotoks Pekisko Ponoks						16 5 0 5	5	6 0	17	
Ponoka							1	0.5	15	
Seven Persons						1.55				
Vaterton Mills	1 37	5	20	0 66	17	19.0	5	6 ()	18	
OGATCHEWAN-										
Gull Lake Gull Lake (Fks Swift Cur.)						1.7	1	1 7	10	
deadow Lake										
Meadow Lake The Meadows (Battle Ck.) Villow Creek (Maple Cr.)										
Vapashos	0 110					0.3	1	0.3	11	
NITOBA-										
artwright	0 37	3	27	0.26	6	+	2	*	18 21	
Deloraine				0.20						
Deloraine Vorquay (Swan Lake) Rapid City	0.27	3	23	0.25	11	7 0	4	5.0	21	
Rose Bank									****	
FARIO -										
rantford(Bow Park Farm)	3 53	13	12	1 25	9	1.6	5	0.6	10	
Deer Park	3 05	10	29 27	1 37 0 40	9	4.0	,	4 ()	· · · · · · · · ·	
Deer Park	0 75 3 56	13	15	0.73	20	2 0	2	1.5	10	
ort Frances	3 51	-1	16	1.07	19	* **	4	14	9-24	
rantham	3 18 2 81	12 9	18 21	1.27	10	*	2	¥	10-11	
ort Frances eorgetown frantham frand Valley fillier facCus				0 90						
	2 75 2 72	4	26 24	0 94 1 20	9	3.0	1.1	3 0	9	
асСца		ti .		0.54	29	3,4	3	3 11	8	
lingera Falls	2 72 2 32	6 7	20	0 01						
liagara Falls lipigoa	2 32			0.94	19	8.0	2	6 0	10	
Viagara Falls  Lipigoa	2 32	3	25	0 94			2	6.0		
Viagara Falls  (ipigoa .  rinceton  oint Clark  tenfrew .  ydanham	2 32		25 .	0 94	19 18	8,0 1 0 14 0	1 2		11	
Viagara Falls  (ipigoa .  rinceton  oint Clark  tenfrew .  ydanham	2 32 1 51 2 80 2 24 2 37	3	25 25 24 25	0 94 1 10 0 77 0 76	19 18 13	$\begin{smallmatrix}1&0\\14&0\end{smallmatrix}$	1 2 2	1 0 12 0	11 0	
Nagara Falls Nipigon Princeton Joint Clark Renirew Sydenbarn Itathroy Tatford Gestport	2 32 1 51 2 80 2 24 2 37 2 06	34	25 .	0 94	19 18	1 0	1 2	1 0 12 0	11	
NacCta Ningara Falls Nipigaa Trinceton Coint Clark Leafrew Vedenham Vatford Veatport Vestminater Vooler Vooler Vooley	2 32 1 51 2 80 2 24 2 37	3 4 4 5 3	25 25 24 25 25 25	0 94 1 10 0 77 0 76 1 10	19 18 13	1 0 14 0	1 2	1 0 12 0	11 0	

# PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING NOV., 1913.

		R	AINFAL	L.			SNOW	FALL.	Ĩ.	
STATIONS	Amount in inches.	No. of Days .01 or oxer.		Heaviest Fall in Month	Date	Amount in inches	No. of Days.	Heaviest Fall in Month	Date	REMARK
URBEC-										
Bark Lake (Riviere Desert) Kipawa Dam										
Lucerno Perkins Mills Quinze Dam Timiskaming Ville Marie	3 15 2 23	5 6	23 21	1.50 0.80	9 8	0 6 10 4	3	0 4 8 0	28 10	
Kew Brunswick-										
Point Escuminae	1 28	4	25	0 69	10	1 2	1	1 2	26	
NOVA SCOTIA-										
Big Mushamush Lake (Ma- hone)							 			
Kentville Miltou Mushnmush River (Mahone)	1 90			1 00	10					
Nappan South Alton White Rock	1 41			0.52		1.0	1	1.0	26	

# PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE MONTH OF NOV., 1813.

a Barometer not reduce I to sea level

				PRESSU	RE	humodity	cloud	mpletely			170	tE: Ti	05-01	111	SD FI	to M			Vi	t or it Wint	7 OF
STATION	Latitude N Locatione W	Elevation above sea	Mean reduced.	<sup>1</sup> Highest	Lowest	nlative	Mean autount of c	No el days comp	<u> </u>	- 7	7	7.	į.	II 7.	W -	- N.W.	.0 .	Floral number of	Mean mass per hear	Maintinity	Date and dime
BRITISH COLUMNA— Arba Barkerville Kunboops «Nanam» , transfe lupert Transfe luper Transfe luper Vincouver Vincouver	50 35 133 53 2 124 5 50 42 12 5 49 40 123 5 54 48 150 1 50 52 120 30 41 120 4 49 17 125 48 24 125 1	7 125 8 170	29.55	30 50 . 11 35 . 30 30 . 30 14 .	25 92 1 3 20 01 1 5 20 21 1 4 20 24 1 0 28 98 1 1 28 94 1 0 29 40 0 9 29 51 1 0	5 2 1 1 1 1 1 1 1		1. 40 9 11 18 5 16 12	4 1 3 0 2 3 1 17	12 1 0 1 1 1 1 1 1 1 1	2 1 2 1 20 1, 20	11 4	10 17 2 2 6	0 15 0 14 0 3 2	() 6 4 1 2 4 1 5	11 11 11 11 11 11 11 11 11 11 11 11 11	5 11 30 27	60 60 60 60 60 60			
Yukon— Dawsoa	64 4 100 ;	1 4200																			
ALBERTA— Banff Calgary Edmonton . Medicine Hat .	51 10 115 3 51 2 114 53 33 115 3 50 4 110 3	1 2138	29.75	41 31 .	29 3, 1 0 20 34 1 0 20 11 1 2 20 N 0 9	3 14		3 4	0 1 2	1 6	1	1 4 6	1 3 11 3	19 12 26	12 5 11	25 6 3	24 18 5	60 60 60	4.4	ie	1.H. NW
SASKATCHEWAN— Battleford Moose Law Prince Albert Qu'Appelle Swift Current	52 41 108 2 50 21 105 3 53 10 1 a 50 30 103 4 50 20 107 4	9 1620 5 1759 0 1402 7 2115 5 2437	29 85 21 90 21 83 21 88 20 87	30 41 . 30 3 + 2 30 44 . 30 40 2 30 30 3	29 36 1 0 20 36 1 0 29 32 1 1 24 34 1 0 24 31 1 0	5		1 10 5 4	0 4 2 2 1	3 1 1	1 5 1 2	17 3 4 2	1 2 3 20 13	15 15 15 25	10 5 7 9	11 10 10	26 24 15 0 6	60 60 60	4 5 11 2 11 6	16 29	981. 48L. 8W
Manitoby— a Aweme (St. Albaa's) Munedoss Le Pas. Winnipeg	49 42 99 3 50 13 39 5 53 49 101 1 49 53 97	3 1180 9 1609 5 860 7 700	18 70 3) 97 2+ 97 2+ 97	20 24 3 40 40 2 30 66 2 30 51 2	(S 20 1 0) (S 46 1 0) (S 40 1 2) (S 3 1 1)	5 5 46 6 95	5 4 6	1	. 5	3 4	10 5	1 7 21	1 5 15	3 11 11	5.8	12 6 13	26 2 2	60 60 90	7 9 11 9	 8x	7NI <sup>†</sup> 7NW
ONTARIO→																					0.611110
Cochrane Gaelph Hailey-bury Kingston London A Lindsay Ottawa Contawa Ott	40 2 81 4 43 33 81 4 47 2 77 5 44 13 76 2 42 5 1 81 1 45 26 75 4 45 27 80 1 42 40 81 11 43 08 2 46 9 55 6 43 40 77 2 46 9 75 6 47 40 81 11 48 30 81 8 48 30 77 8 48 30 77 8 48 30 77 8 48 30 8 4	, 051 - 687 - 285 - 808 - 872 - 294 - 635 - 644 - 592 - 656 - 557 - 350	3 1 02 3 1 03 3 1 03 3 1 04 3 1 04 2 1 95 3 0 11 3 0 03 3 1 06	30 56 2 30 58 2 30 58 2 2+ 51 2 30 72 2 31 55 2 30 48 2 30 52 2 30 52 2	\$ 90 1 to 9 05 1 3, 5 05 1 47 8 95 1 75 8 90 1 67	712 - 2272	7 7 8 10 10 10 10 10 10 10 10 10 10 10 10 10	18 24 16 14 14 12 12 12 13 14 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	6 0 5 5 2 5 2 5 2 1 2 1 0 0 1	9 0 11 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00000101010474107	21 4 11 21 21 2 1 0 11 0 13 2	2 30 + 17 25 25 15 17 17 17 25 25	21 -9 14 -12 -9 15 10 -3 11 19 -9 19	4 20 9 5 12 12 5 11 14 10 0 10 8	1 4 10 0 0 3 0 2 2 3 3 1 34 0 5 0 6	60 90 60 90 60 60 60 60 60 60 60 60 60	9 2 12 7 11 6  10 8 3 6 16 0 4 8 14 3 6 9 13 8	33 61 22 40 25 36	9N 9N 9NE 9E 9N 16NW 10W
QUEBEC — Anticos S W Pt Father 'oint Montreal . Que ec She brooke	49 24 63 35 18 31 68 15 45 30 73 35 46 48 71 15 45 32 72 5	20 187 293	2+ 99 2 30 (b) 3 30 (b) 3	50 S1 2 50 67 2 50 7S 2	( 43 1 35 ( 65 1 62 ( 40 1 58	86 66 76	151	20 8 14	1 .: U	2 21 21	1	11.2	5 0	12 21 21	14 19 31	15 6	2 1 5	811 911	16 <b>4</b> 15 7 13 1	52 41 46	18W 18W 9 NL
New Brunswick— Chich m Fre er.cton St. John	47 3 65 23 45 57 66 36 45 17 66 4	104	30 06 3 30 10 3 30 09 3	0 92 7	( 45 ( 45 ( 42 l 50 ( 14 l 5)	78 82 75	5 5	5	1	2 3 9	; 6	1	0.7	15 22 24	22 24 12	1 1 21	1 4 2	6 : 911 911	5 1 14 5	37 41	23 \ W
Nova Scotia— Hatilax Sable Island (MStation) Sydney Truro Truro (2) Wolfville Yarmouth	44 29 03 00 43 57 60 6 46 10 60 10 45 25 63 45 45 7 64 20 43 50 60 2	88 25	30 08 3 30 11 3	0 82 2 0 70 2 0 70 2 0 85 2 0 84 2	1 1 1 2 2 2 3 4 1 1 3 4	*5	6.8 - 11.656	9 1- 10 11 8 11	3	10 12 7 12 13 5	1 3 4 5 5 7	3 1 4	1 0 0 6 4 0	24 22 22 11 1	13 17 11 15 15 15	17 12 21 15 13 9	0.000000000	501 501 503 501 501	11 9 11 6 15 2	37 56	98E 2 N 2N, 98E
P. E. ISLAND Charlottetown .	46 - 14 63 - 10	38	30 - 05 -3	0.522	401-0	74		1,	3	4		-	2	1	10	12	7	ńп	8 1	30	$1 \geq W$
NEWPOUNDLAND Burin Fogo Port aux Busques St. George's St. John's Branding	47 0 55 10 49 43 54 17 47 35 59 10 48 27 58 31 47 34 52 42 32 17 64 46	- 1			20 1 4 16 1 61 01 1 55 83 0 54	72 SI	61	21 20 10	20	i 8 1	1 7	1 2		1 13 15	15 3 6	26 14 12	1	60 - 60 - 60 - 60 - 60 - 60 - 60 - 60 -			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF NOVEMBER, 1913

			DIR	ECTIC	ON O	F WI	ND F	ROM		
STATION	ż	N.E.	пi	S.E.	Ś	S.W.	W	N.W.		Total number of Observations
ALBERTA— Athabasca Landing. Didsbury. Endiang. Halkirk (Emsburg). Hillsdown. Loveland. Macleod. Pakan (Victoria).	1 1 7 2 1 1 2	1 0 11 1 1 3 0	1 2 2 0 0 1 2	2 0 4 11 7 15 0	4 6 4 21 14 1 0	8 10 0 9 9 20	11 4 0 6 0 8 41	2 8 1 0 10 11 0	0 0 0 10 18 0 14	30 31 29 60 60 60 60
Ranfurly (Waitefield). SASKATCHEWAN— Chaplin Crescent Lake Estevan. Fort Qu'Appelle. Grenfell (Brownhill) Indian Head Larchmount (Glenbryan).	1 1 2 0 1 2 1 2	3 1 2 2 2 0 0 1 2	6 1 0 2 18 0 3 1	16 2 2 5 4 2 4 5	13 10 10 6 6 2 8 4	8 5 3 4 6 35 40 29	15 8 8 5 14 6 9 5	19 1 3 3 7 13 23 12	16 1 1 1 5 1 0	90 30 30 30 60 60 90 60
Moosomin Muenster (St. Peter's Monastery) Onion Lake Pense (Gatesgarth) Waseca JANITOBA—	2 4 0 0	5 2 0 1	3 8 0 2	5 5 8 4	21 1 0 0	11 1 9 3	10 1 3 15	3 8 10 5	0 0 0 0	60 30 30 30
Berens River Brandon Hillview Moose Horn Bay (Aitkensville) Morden Oak Bank Stony Mountain	7 1 5 9 11 5 8	12 4 9 2 1 0 2	5 5 6 4 0 1	2 9 12 6 7 1 7	22 2 11 16 9 13	3 16 13 4 12 1	8 11 3 2 10 3 9	1 9 30 10 4 5	0 20 1 5 6 1	60 77 90 58 60 30 60
Ontario — Agincourt Alton Beatrice Birnam Clinton Cottam Gravenhurst North Bruce O'illia Owen Sound	4 7 3 4 3 9 2 5	13 0 0 0 0 0 0 0 6 4 2	11 13 1 7 7 9 9 17 0	3 2 5 8 3 7 20 6 3	8 12 13 5 12 15 19 29	27 7 8 15 12 8 9 5	11 49 5 5 8 11 11 8 6	13 0 13 8 14 1 6 16 2	0 0 42 8 1 0 8 0	90 90 90 60 60 60 90 90
Point Clark Port Dover Stoney Creek Uplands Wesford	2 2	0 9	3 16	0 1	5	9 7	9 39	2 15	0 0	30 9 <b>0</b>
QUEBEC— Abitibi Anticosti, W. Pt. Anticosti, Heath Point Bicquet Brome Cape Chatte Cape Magdalen Cap Rouge Chicoutimi Clarke City Manouan Crossing.		1 5 9 21 0 3 2 4 10	5 8 5 0 4 3 4 0 5	5 4 3 0 0 0 4 0 2	29 16 4 22 19 2 16 0	12 7 18 6 6 7 11 2 8	11 18 14 19 44 37 7 0 15		0 0 3 4 4 21 8 0 41	90 90 90 90 90 90 90 90 90 90
√ew Brunswick — Dalhousie Moncton Pt. Lepreaux Sussex	1 2 4 0	0 3 12 1	7 4 0	1 2 5 1	0 0 4 0	2 1 14 6	14 3 14 1	3 1 <b>5</b> 22 6	1 0 0 15	29 30 75 30
Nova Scotia—  Kentville  Parrsboro  Port Hastings.  Sable labor F. De	2	2	4	2	3	4	8	5	0	30
Sable Island, E. Pt	8 13	10 13	4 6	3 2	9 4	22 35	15 5	15 12	4 0	90 90

# MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF NOVEMBER 1916.

OTHER TO A									Нос	R5 Ex	DINO				-			
STATION.	4 n m	5 a m.	6 a m.	7 a m.	8 a m.	9 a m.	10 a.m.	11 a m.	Noon	I p m	2 p m	3 p m	4 p m.	2 to m	5 p.m	. p m	m d 8	9 p m.
Shawnigan Lake					т	11	2~	93	92	92	25	27	14					
Victoria					.01	.06	.15	28	34	33	25	25	13	0.1				
Selmon Arm					.01	0.6	12	23	27	23	2.4	32	11					
Nanaimo												-						
Vancouver					01	06	19	.31	37	2:	3	28	21	04				
A gaesiz						.05	13	21	21	20	20	21	11					
Tranquills					01	16	41	41	53	49	49	37	2.3	04				
Summerland					07	29	39	34	39	34	41	34	(15					
Kamloops					T	17	32	46	45	5.5	53	47	09					
Harper's Ranch																		
Invermere						01	.11	22	45	45	35	33	.06					
Edmonton					0.2	29	411	34	45	42	44	46	29	02				
Lethbridge					112	21	34	43	55	65	611	60	47	17				
Lacombe					.115	32	52	65	75	.71	77	66	38	05				
Medicine Het					.02	21	36	4.5	41	42	46	29	24					
Fort Dnnvegan							u3	21	34	.41	46	1	02					
Fort Vermilion											•	.01	02					
Battleford																		
Indian Head						10	27	.45	46	.5;	50	. 53	35	11	Т			
Moosejaw					.06	35	50	.54	.55	61	59	58	36	03	1			
Spott				.05	21	30	45	.58	58	58	50	.34	04	00				
Rosthern					04	26	34	.35	44	53	55	49	34	0.5				
Brandon		*			03	27	46	55	56	51	ى5	27	.08	0.0				
Winnipeg					01	16	27	39	43	53	56	54	44	07				
Hailey bury					02	.10	14	11	15	14	17	17	.21	.04				
Woodstock					0.3	28	42	35	41	42	39	.37	25	05				
Lindsay						.05	30	. 33	. 36	40	41	.41	.31	.11				
Barrie					.09	21	24	31	36	41	41	51	07					
Foronto					03	. 22	.31	.39	43	37	44	36	23	04				
Kingston				Т	69	. 33	29	41	43	46	44	42	22	.04				
Ottawa				* .	09	26	44	49	47	46	45	43	26	.06				
Montreal						20	**	12	*(	40	40		20					
Cap Rouge					.02	.15	25	31	. 33	26	25	25	15					
					.02	25	32	44	45	35	31	31		03				
Quabec				.03		32		49		39	42	30	25 02	.05				
Ste. Anne de la Pocatiera			• · · · ·		25	32	34	49	44	39	4-2	30	02					
herbrooke					05	10	. 20	,-						1.7				
redericton				*	.05	36	38	47	47	42	41 31	_4 i	41	17				
Cherlottetown					08	.24	39	35	.28					05				
Vappaa						. 29	.57	.58	.56	49	39	44	35	15				
Wolfville					08	33	42	51	53	54	52	52	36	13				
Contville					0.5	23	41	28	55	54	49	46	39	_ 10				

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Charlottetown		- 5		- ;	- oo	
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Harley bury	- 8	=	1	16	17	7
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Salmon Arm.	67	<u></u>	- 1	0.5	33	
Victoria.	13	ā		53	C1	Ξ.
magnawad8 9sbs.T	- 5	51	- 1	12	-	=
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	red c	age	nce fi	one c	max	etely
o N	Registered duration in hours	Percentage of pos- sible duration	Difference from average	Maximum percent- age in one day	Date of maximum	Number of days completely cloud-
	Reg	Per	Dit	Ma	Da	Z Z Z

SUMMARY OF SUNSHINE RECORDS

	Thunder recorded:
1.	
2.	
3.	
4.	
5.	
6.	
7.	Haliburton, Listowel, Cottam, Lucknow, Goderich, Clinton, Birnam, Montreal River.
	Haliburton, Parry Sound.
9.	Madoe, Haliburton, Montague.
10.	Liverpool, Almonte, Ottawa.
11.	Almasippi.
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	
21.	
22.	Brantford (Bow Park), Lakefield, Cottam, Birnam, Rutherglen, Stoneeliffe, Parry Sound
Peace R	iver Crossing.
23.	Causapscal, Haliburton, Rutherglen.
24.	
25.	
26.	Alberni.
27.	

28. 29. 30.

#### Auroras recorded:

- 1. Mistassini III. Aweme II. Edmonton, Anglia, Crescent Lake IV. Halkirk, Raufurly II. Sion IV. Hillsdown IV. Beaver Lodge III. Peace River Crossing.
- 2. Advocate, Cansapscal, Mistassini 111, Rutherglen IV, Aweme 111, Crescent Lake IV, Pambrum, Ranfurly IV, Sion IV, Hillsdown II1, Beaver Lodge.
  - 3. Sion III.
  - 4. Anglia, Sion IV.
  - 5. Cartwright IV, Causapseal, Beaver Lodge.
  - 6.
  - 7.
  - 8. Ranfurly IV.
  - 9. Chicoutimi.
  - 10.
  - 11. Cartwright IV.
  - 12.
  - 13.
  - 14.
  - I5.
  - 16.
  - 17.
  - Mistassini IV.
  - 19.
  - 20.
  - 21.
  - 22.
  - 23.
  - 24.
  - 25. Brazeau Forest.
  - 26.
  - 27. Mistassini III, White Shore Lake IV, Aweme IV, Anglia, Muenster III, Atlin.
  - 28.
  - 29. Muenster IV.
  - 30.

### FORECASTS FOR NOVEMBER 1913

The forecasts issued by this office at 11 p.m. each night, are for the 24 hours beginning at 8 a.m. the following day; and are published in most morning newspapers

The number of these predictions issued during the month was 1264. These were divided as follows:

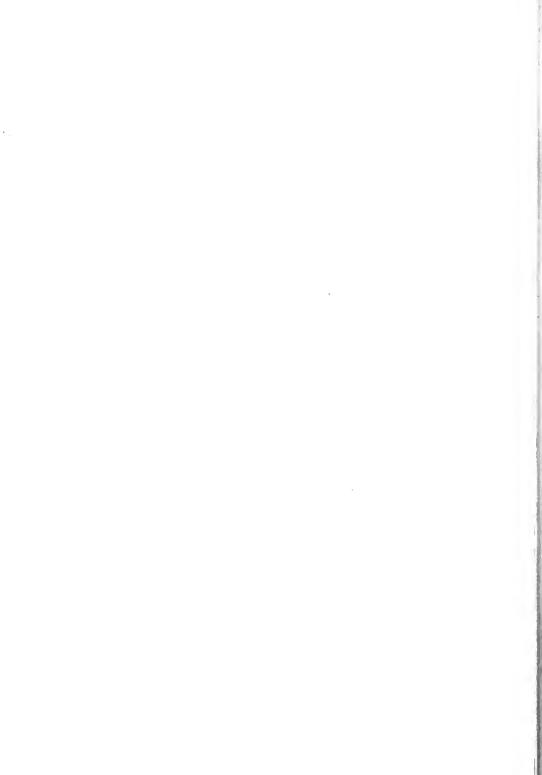
		VERIFIED.				
District.	No.					
District.	Issued.	No	No.	No.	Per-	
		1 allv	Partly	Not	cen*ag	
lberta	75	53	15	,	7# 3	
askatchewen	7.5	74	16	5	82.4	
fanitoba	7.5	54	15	6	52.0	
ake Superior	123	57	29	7	52.5	
ower Lake Region	115	42	31	5	52.6	
Georgian Bay	119	87	27	5	84.5	
Ottawa Valley	99	7.2	10	8	82.3	
Jpper St. Lawrence	49	7.2	20	7	52 S	
ower St. Lawrence	119	×.	29	10	79.3	
iulf	123	91	24	7	51.1	
faritime Provinces West	120	0.5	18	` `	55 8	
Maritime Provinces East	120	94	22	7	55 0	
Total	1264	916	265		82.9	

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART, Director.

Meteorological Office, Toronto, Dec. 30th, 1913.



# DEPARTMENT OF MARINE AND FISHERIES, CANADA.

METEOROLOGICAL SERVICE.

# Monthly Weather Review

VOL. XXXVII.

DECEMBER, 1913

No. 12

#### INTRODUCTION.

In compiling the present Review, the principal data made use of are the telegraphic reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm-signal agents. For the data used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

#### THEH AREAS.

Seven areas of high pressure were charted. One first appeared near the Yukon Territory, three near Northern Manitoba, and three on the coast line of the Northern Pacific States. The areas for the most part lacked energy and, irrespective of the systems from Northern Manitoba which passed well to the northward of the Great Lakes into the St. Lawrence Valley and the Gulf and brought some cold spells to northern and eastern Ontario, Quebec and the Maritime Provinces, the areas were not marked by any accompanying very low temperatures.

#### LOW AREAS.

Twelve areas of low pressure were sufficiently well defined to allow of their paths being charted. Six first appeared in the far northwestern portion of the continent, one in the West, and one in the South Pacific States respectively, three on the east coast of Texas, and one near Bermuda. Four areas passed far to the northward, three over, and the remainder to the southward of the Great Lakes. A few only of the systems were of any great energy, the majority being feeble for the season of the year. As a consequence the number of high winds and gales occurring in Canada, were not as numerous as they usually are in December.

### ATMOSPHERIC PRESSURE.

The results obtained at the telegraph reporting stations in December indicate that the mean value of the atmospheric pressure was subnormal on the Atlantic and Pacific Coasts, that the normal was reached in Western Alberta and the Georgian Bay region of Ontario, and exceeded in the region lying between. The greatest mean pressure was over Manitoba where the average was exceeded by about 0.1 of an inch, and the Maritime Provinces where negative departures were from 0.06 to 0.1 of an inch.

#### GENERAL SYNOPSIS OF TEMPERATURE AND PRECIPITATION.

The following table is intended to show the average values of temperature and precipitation for each province for the month under review. District and Provincial means would, under ideal conditions, he derived from stations situated in equi-areal squares. But since in reality they are so situate as to appear, rather, constellation-wise upon the map, anomalous values arising from local topographical peculiarities may have received more than their just weight in the computation of the following averages.

Where no difference from normal is assigned, observations over a period long enough for reference are not available.

British Cola Mriy— South Vincouver Island North American Island. Lower Flaser River Upper Flaser River Okamagan Valley West Koodenav Enet Koodenav Enet Koodenav Thompson River North Colambia River North Colambia River North Saskatchewan River North Saskatchewan River	Main Dal West (1975) 1975   Main Dal	System Park Mean Park Maxmum	1884 64 65 65 6 65 65 6 Month Dady, Mannann,	Mean Darly 171 6 71 1 1 2 8 6 Range	Externo Highest	Lowest	Total in Beds	Difference from	Number of Days	Gratest Fall.	STATION DIFFERENCES IRON NORMAL TEMPERATURE  -1 m+2°
South V meouver 1-bind North V meouver 1-bind. Lower Faser Kiver Upper Univer Kiver Upper Univer Kiver West Kootenav East Kootenav Faset Kootenav Thompson River North Columbia River North Columbia Columbia Queen Charlotte 1-binds ALBJATY North Saskatchewan River	41 52 52 53 54 54 54 54 54 54 54 54 54 54 54 54 54	47-25-4-25-5-6-8-6 25-4-25-5-6-8-6 25-6-8-6-8-6	59 23 20 23 23 23 15 25 16 30	3 13 11 9 12 10 10	58 51 53 45 42	25 11 - 8	15 110		24	2 89 3 25 5 69	
North Vascouver Island. Lower Flaser Kiver. Upper Univer Kiver. Upper Univer Kiver Upper University of the Valence of the Vale	41 52 52 53 54 54 54 54 54 54 54 54 54 54 54 54 54	47-25-4-25-5-6-8-6 25-4-25-5-6-8-6 25-6-8-6-8-6	59 23 20 23 23 23 15 25 16 30	3 13 11 9 12 10 10	58 51 53 45 42	25 11 - 8	15 110		24	2 89 3 25	
North Saskatchewan River	21 26	31		9	43 48 40 63 51	- 6 - 6 - 11 - 15 - 70	1 35 0 50 0 75 0 44 0 66 2 50 12 40 25 85	-50°, -50°, -60°, -45°,	5 4 6 2 4 7 11 26	0 98 2 00 0 55 0 75 0 60 0 55 1 65 4 42 4 45	0° to ±2° ±2° to ±5° ±6° to ±2° Very small 2° at Bloo •1° to ±2° -1° to ±2° 1° at Bella Coola †0° 5°
North Saskatchewan River	21 26	31									
The B w River. Athabasea River	16	32 35 23 25	9 14 9 7	22 23 24 20 15	64 59 51 57	-18 13 18 21	0 10 0 03 0 18 0 19 4 38	—95°, —80°,	1 5 2	0 14 9 10 0 61 0 05 0 40	+ 11 7 at Edmonton +1 to +70 +30 to +80 +70
SASKATCHEWAN-											
S. Saskatchewan River N. Saskatchewan River. Saskatchewan Forks	18 21 16 15 15	28 33 26 24 21	8 9 6 6	20 24 20 18 17	55 58 46 45 35	$     \begin{array}{r}       -22 \\       -12 \\       -25 \\       -24 \\       -27     \end{array} $	0 01 0 01 0 00 T	= 05° /; = 15° /;	1 1 1	0 20 0 04 0 20 0 10 T	+7 to +12° +6° to +8° † 12° +8° to 11°
Manitoba—							l				
Rivers The Red River	19 23 23	29 30 30	9 10 10	20 20 21	51 54 46	-23 $-20$ $-16$	0 07 0 19 0 01		2 1 1	0 10 0 30 0 01	±7° to ±13° +9 to ±12°
INTAKIO-											
Lake Haron Counties Lakes St. Char & Eric, Na- gara Penusula West Central Counties Lake Ontario Counties	17 21 21 15 15 17 27 27 27 27 27 27 27 27	23 35 29 25 30 34 36 37 40 36 37	11 13 12 8 14 21 21 26 25 23 25 19	10 22 17 19 16 13 15 11 12 13 12 16	91 53 52 46 44 50 55 55 53 54 59	$\begin{array}{c} -17 \\ -15 \\ -34 \\ -27 \\ -16 \\ -10 \\ -13 \\ -5 \\ 0 \\ -12 \\ -10 \\ -19 \\ \end{array}$	0 05 0 21 0 90 1 67 1 30 1 38 0 96 0 95 0 65 0 72 0 90	-90° (-75° (	1 3 5 10 43 7 5 7 4 4 4 4	0 05 0 50 0 65 0 71 0 30 0 80 0 60 0 58 0 60 0 40 0 82 0 90	+7 h at Kenora +11' at Port Arthur +8' at Hadoybury +8' to +102' +6' to +7' 5 +6' to +7' 5 +6' to +7' +1' to +7' +1' to +7' +1' to +7' +6' to +10'
QUEBEC-											
Middle St. Lawrence. Lower St. Lawrence & Gulf Lake St. John Northwestern Districts	21 19 1 18	29 26 25 27	16 11 10 9	13 15 15 18	44 46 42 52	-22 -20 -12 -30	2 55 2 05 1 55 1 20		10 9 4 6	1 20 1 80 0 60 0 70	+6° to +7° +4° to +7° +9° at Abutibi
New Brunswick-											
All Stations .	25	32	17	15	55	14	2.80	-15° c	9	1 50	+4° to +8°
Nova Scoria—								1			
All Stations	29	36	23	11	58	- 1	1 64	−10° €	12	1 86	+1" to +3"
Prince Edward Island— All Stations	28	34	22	12	56	10	3 23	- 25' c	17	0.84	+3°

#### FREE AIR DATA

### REGISTERING BALLOON ASCENT AT WOODSTOCK.

(Lat. 43 8 N , Long 80 47 W.) on December 40 , 1913

Instrument—Dines Meteorograph, Beginning of Ascent—Laim, G.M.T.

Barometer—738 mm.

Temperature = 2 5 C.

Direction of flight at Begaring-South-East.

Fell 169 km. 1 stort S.40 E Maximum Height 10 6 km. Minimum Temperature 51.5 C

Height in km. above S.L.	Pressu e m mm.	Temperature in Co	entigrade degrees
G.L. = 0.3	738	2	. 5
0.5	719	2	.0
0.9	68.3	2.0	0.5
1.0	675	3.0	1 2
1.15	064	4.5	2.5
1 5	634	4.0	2.0
1 7	618	4 0	2.0
1.8	612	3	()
2 υ	วัชเร	2	ñ
2 5	559	1	5
3 0	524	0.0	- 2.0
3 5	493	- 3 0	- 5 ()
4.0	463	- 5.5	8.7
4 5	433	- 8 7	11.8
5.0	406	-12.0	15.0
5 5	380	15.5	15.0
6.0	556	18.5	21.0
6.5	552	22.5	-24.5
7 0	510	-26.5	-25.5
7 5	288	31.0	-33.5
8 0	268	-35.0	-37.0
8 5	149	-39.0	-40.0
9 0	232	-41.0	42.5
9.5	214	- 44.5	15.5
10.0	200	- 47 5	- 49.
10.3	190	-51	. 5
10.6	181	-50	5

An area of low pressure was centred southeast of Newfoundland, while the barometer was high over almost the whole of the United States, giving fine and mild weather in Ontario.

### WINDS, DECEMBER, 1913

PROVINCES AND STATIONS.	Total	Greatest Mileage	Greatest Mileage in 1 Hour			Nun	nber of Da	GENERAL	
	Mileage.	24 hours.	Miles	Direction	Date	Gales	Strong Winds	Fresh Winds	DIRECTION
BRITISH COLUMBIA.									
Atlın Prince Rupert	8161	500							NE
Victoria Point Garry	4783 4922	347 354	27 32	E	30	1	6	8 9	E
Vancouver		331	32				4		E E
ALBERTA.									
Edmonton	*2522 3381	176 194	13 22	SE NW	13 7		3	1 12	SW NW
SASKAICHEWAN.									
Battleford	2791	189	18	s			·	4	SE
Swift Current Qu'Appelle	7200 7689	414 527	31	<sub>NW</sub>	7	1	<del></del>	18	SW SW
MANITOBA.	1				İ		1		
The Pas	6697	531	32	NW	6		····· <del>i</del> ····	16	SE, NW
Ontario.									
Port Arthur. White River Cochrane Parry Sound. Sou.hampton Pelee Island Woodstock Guelph Toronto Kingston Stoneciffe. Ottawa	6397 4117 5272 7105 10786 10984 §S113 9000 10441 6604 3224	504 345 432 355 709 1094 543 453 621 397 119	37 22 26 23 49 53 28 40	NW N NW W NW W NW	6 7 14 9 8 8 4	4 6	4 1 4 7 17 17 19 17 20	17 13 12 17 8 10 7	NW W, N S, SW SW, NW SW NW W W W W W
Эпенес.									
MontrealSherbrooke	10630	566							NW
QuebecFather Point	9438 10932	705 619	41 42	NE N	26 8	4 5	15 17	9	SW N
Anticosti, SW									
NEW BRUNSWICK									
Pt. Escuminac Fredericton	13217 5710	998 379	56 34	NW NW	8	18 1	5 7	7 15	NW NW
St. John. Pt. Lepreaux	10033 13388	816 954	52 61	sw sw	. 8	5 16	14 11	7 2	NW NW
Nova Scotia									
Yarmouth	9910	826	58	sw	8	4	. 16	8	NW
Halifax Sable Island	9394	852	51	sw	8	4	13	10	NE .
Flat Point	13737	798	48	NE	27	17	7	6	N
PRINCE EDWARD ISLAND									
Charlottetowa	6585	493	27	SW, NE	8-27		9	14	NW

<sup>\*</sup> Record for 26 days only. Record for 29 days only. Record for 30 days only.

\*Stations not furnished; with Register (g).

			_					11.411)	2			11+			
SIATION	l'anturk ".	Lengitude W	I levation above sea level, in feet	Mes	Dil erenee from acetture	No Objects	Heb t	1 25.0	3 1801			AND STATE OF THE S		-	e management of
BRITISH COLUMBIA															
S. Vancouver Islant Alberm Beaver Cteek Clayoquot, Clo-lose	1	- 1 4' - 1 17 - 18		1			:		-						
Cho-Jase	1.	- 42 -4 -1 -	12	. :					-						
Nanaimo Nanoose Bay Quaheum Beach Salt Spring Isbud Shawnigan Luke Sooke	4. 1.	-1 1 -23 41 -7 41	13			-									
Victoria N. Vancourer Islama Alert Bay	4. 1.	2011	*5	1. ·		:							*		
Quatsino Triangle Island Lower Fraser Record Agassiz Butannia Beach Chilliwack	4 - 4	21 51 21 51 21 51 21 51 21 51 2 21	52 12	i								4			
Bupe Lidder Lidder Lidder Lidder Lidder Switch Nicomen Comberton Hatchery Comberton Garry Tout Lidder Lidde		2 4 122 4 123 4 123 4 124 23	3 · 5 ·		. :	2	4.		- 1			3.37		. i	
Babina Lake	1 1-	13/3	125 135	1 4			1.		14			=;	:	1;	
Chileotin 'Big Creek	55 (*)	126 25 121 - 5 111 - 0 13 - 5	311	-14			11 1	1				-1 ·. -	-	1	
Fort George Fort St. James Stuarts Lake) Hydrauhe Quesnglle kanagan Valley Duck Lake Ranch		124 12 122 5 22 5	17	1 ± 25 ± 6 = 5	-	, .		:		 , ;	4				
Hedley (Nickel Plate) Keremeos Kelowna(Okanagan Mission) Pantieton Princeton Richlands	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	119 20 119 57 119 57 119 5 119 35 120 20 118 15	14: 1771 1 7- 12: 1:5:	54 : 1 24			15	1-:4	2 - 2 - 1			- 4: - 4 - *			
Summerland Vernon (Coldstream Ranch West Kootenay Crawford Bay Creston. Grand Forks.	100 100 100 100 100 100 100 100 100 100	119 45	110 158, 20 o 1985 1776	28 E	- :	4	4.	1.				 		1 1	
Greenwood Howser Ks-lo Nakusp Nelson Pend d'Oreille Waneta	40 1	1.8 27 118 1 117 1 117 47 117 21	1752 176				4					-			
Perry Siding Rossland East Kootenay Cranbrook Elko (Fruirlands)	41 - 1 41 - 1	117 48 117 48 115 50 115 5 116 2	2684	21 1 21 4	- 1		10	15				2 ) 1 T			
Invermere Wilmer Thompson River Armstrong Asheroit Enderby	5 1 1 4 5 1 2	116-14	5	19 17 28											
Harper's Ranch Kamloons Monte Creek	10 41	119 7 120 29 12 36 12 54 12 39 119 55	118 1245 212 212	28 8 12 4 21 4 21 4				-1				1.2			,
Salmon Arm Salmon Arm Exp Farm Tappen Tranouille Vavenby	7) /. 7) :	119 55 120 2. 110 45	1112												
Vorth Columbia R 1927 Fauguier	4 1: 51 4 51 51	115 5 117 29 118 6 116 5	4 12 147 2550		- 1.7		1 1							7 21	* *

### TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, DEC., 1913.

\*Stations not furnished with Registering Thermometers

	!			ef			7	емре	RATUR	E	_		PREC	IPITATI	ON	more.		=	D.B.	-
STATION.	7 change	Latitude .	Longitude W.	Elevation above sea level, in fect.	Mean.	Difference from average.	Yr's Observations	Highest	Date	Lowest	Date	Mean daily range.	Amount.	Difference from average.	Heaviest fall in month.	Days with 0.1 or m	No. of fair days.	No. of auroras	No. of thanderstorms	No. of fore
BRITISH COLUMBIA-Con.		_					_									_	_	_	_	
North Coast	0	,	0 /																	
Beila Coola Prince Rupert Stewart Terrace	52 54 56 54	18 18 1 30	$\begin{array}{c} 126 & 54 \\ 130 & 18 \\ 130 & 1 \\ 128 & 30 \\ \end{array}$	150 170 215 545	34 2 41 3 27 4 31 5	+ 3 0	15 4 4 2	47 0 63 0 37 0 45 0	7 8 6 3	20 0 18 0 15 9 15 0	25-26 18-10 20 21-28	6 4 11 2 5 9 7 7	5.99 19.08 11.62 11.87	+1 45 - -	1 26 4 42 4 20 2 18	15 18 13 10	16 13 16 21		::	2
Queen Charlotte Islands																				
Ikeda Bay Massett	52 53	17 58	131 7 132 9	5 10	42 9 39 9	+ 0 5	6 15	51 0 53 0	1 3	34 0 30 0	5-18 5-12	7 0 11 7	32 35 9 36	+2.70	$\frac{4}{1} \frac{46}{20}$	26 27	5 4			:
Tukon Boundary																				
Atlin	50	35	133 38	2240	20 3		8	37 5	9	0 0	17-18	10-1	3,10	-	0 65	14	17	1		
YUKON-	60			2171													25			3
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Hallerik (Emisburg). Lloydminister Loydminister Ranfurly (Wartefield) Sedgew.ck. Sion. Vermition Wastinn Wetsskiwin	52 52 53 52 53 53 51 52	30 29 47 54 22 39 58	112 10 111 59 111 38 111 41 114 15 110 50 111 5 113 23	2000	19 4 21 9 19 3 		4 9 1 2 1 1 9	52 0 55 2 55 0 54 0 44 5 42 0 57 0	11 10 4 10 10 4 5	$\begin{array}{c} -13 \ 0 \\ -7.0 \\ -18 \ 0 \\ -12 \ 0 \\ -14 \ 5 \\ -12 \ 0 \\ -10 \ 0 \end{array}$	25 20 24 24 25 25 24	21 7 20 3 22 0 25 6 21 8 21 9 24 4	T 0 16 0.08 0 25 0 04 0.00 0.01	-0,68 -0,73	0 05 0 10 0 04 0 0 0	0 5 2 6 1 0	31 26 29 25 30 31 31	2		1 5
The Red Deer River Alix Alixak Clemens Delia Harmattan Hilsdown Lacombe (Ex Farm) Mooc (Tytol) Perbeck Springlale.	52 51 51 51 52 52 52 51 51 51	15 38 40 45 14 58 15 58	113 10 114 44 112 25 114 8 114 23 113 29 113 44 110 39 113 5 110 12	2585 3300 3500 2940 2783	22 0 18 0 20 7 23 0 29 3 23 5 22 4 20 1 11 2 19 2 20.2	+71 +42	9 1 3 10 6 10 7 1	59 0 45 0 49 0 52 2 58 0 64 0 57 8 32 1 57 5 54 0	11 12 9 3 3 12 10 10 7 5	$\begin{array}{c} -12.0 \\ -10.0 \\ -4.0 \\ -9.0 \\ -2.0 \\ -11.0 \\ -14.0 \\ -13.3 \\ -18.0 \\ -13.0 \\ -12.5 \end{array}$	25 22 25 22 23 23 25 25 25 25 25 25 25 25	29 1 20 0 .7 8 18 7 19 8 53 0 22 4 25 6 10 6 25 6 27 8	0 00 0 12 0 00 0 00 0 00 0 00 0 05 0 01 5 T	-0 41 -0 74 -0 74	0.00	0 6 0 0 0 0 1 2 0	31 25 31 31 31 30 29 31 31	2		3
The Bow River																				
Brooks, Calgary Calgary Expanse Coulce. Expanse Coulce. Coulce. Coulce. Coulce. Coulce. Coulce. Caverence (Parkland) Lethbridge (Exp. Farm.) Lethbridge (Exp. Farm.) Lethbridge (Exp. Farm.) Coulce. Macleod Medicine Hat Med-cine	50 51 50 50 50 49 50 50 50 50 50	59 35 16 43 44 1 43 5 3 13	113 26 112 51 113 24 110 37 113 59 111 34 113 23 111 9	3427 2052 3304 3500 3128 2143 2350	29 2 25 9 2 25 5 5 26 6 25 5 29 6 8 30 5 8 26 8 26 0 25 6 26 0 25 2 26 0	+ 8 3 3 + 5 4	29 1 1) 2 4 6 1 24 28 1 1 1 2 1 3	54 0 58 0 55 0 57 0 48 0 55 5 55 0 55 0 57 2 53 8 54 2 59 0	10 10 10 11 11 14 15 11 10 4 12 10 10 10 11		24 20 25 24 24 22 25 23 22 24	20 6 24 0 21 2 25 3 20 3 27 3 22 9 19 7 23 3 28.1 25 5 20 3 20 3 22 9 25 3 26 6 25 8	T 0 00 T T 0.40 T 0.30 0.00 0.20 0.37 0.20 0.30 0.60	-0.54 -0.52 -0.53 -0.53 -0.43 -0.31	T T 0 40 T 0 30 0 00	0 0 0 1 0 1 0 1 0 2 	31 31 30 31 30 31 29 30 30			2
Rocky Mountains Banff Brazeau Forest (Coal Spur)	51 49	10 46	115 34 114 30	4542 4225	18.1	- 2 1	19	37.3	12	- 8 0	24	15 7	0 05	-1.12	0 03	2	29	::	::	::
Athabasca River							1													
Athabasca Landing. Lunnford. Pembina	54 54 54	43 33 12	113 17 114 19 114 0	1650	18.8	+ 6 9	13	51.0	10	-18.0	24	20.0	0.10	-0 32	0 05	3	18	::	::	1
Peace River																	1			_
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TEMPERATURE AND PRECIPITATION AT STATIONS IN THE POMENION OF CANADA, DEC. 184.

\*Stations not farmshed with Registering 4 hormomore, s

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			7				LEMIL					1 1: 2	CIPITALI		BOTTE			Ē	
STATION	Laternade N	Longitude W.	Devation above book and a feet	Meson.	Ощения фин алеция:	M. Subservations	Highest	Parts	lowest		Mean dai'v ruspe	Anound	Difference from nverage.	Bouvair fall in result.	Processith of or	No of fair days	No of Auroran	No of thunderstorms	No of fogs
SASKATCHEWAN-							-												
Qu'Appelle River		. ,																	
Broadview Brownhill (Grenfell P.O.) Buchanan Crescent Luke	31 L 31 L 30 39	1-2-33 1-2-55 102-25	1% 1,57 1658	16 4 15 8	- 19 - 11 # - 7 1		45 :	11	—: , —1 · ·	- ;	1 7	62	-0.73 -1.5	S		4			3
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Indian Head Kamsack Moose Jaw Moosomin Nuenster (St. Petet's Mon	51 5 52 12 51 22 51 3 51 3	103 40 101 52 105 %5 101 37	1924 175 ( 1881 1870	27 1 16 6 15 1 15 0	- 12 g		34 41 57	11	-1 1 !!	24 91 24	15 .	5 1 1 5	6n	2 = 7	1	.0			
Pense (Gatesgarth ) . Qu'Appelle . Regina Strongfield	52 27 36 27 7 27	195 0 195 9 195 0 193 47 194 47	1879 2115 1885	21.9 21.1 15.4	- 13 6 - 13 6 - 12 1	14	30 t	12 1 11 11	51	27	12 1 11 6	0 + 10 0 + 4 0 - 10	- 0 41 - 57 - 0 51	12	2 0 5 4	1 27			
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N. Saskatch wan Ricer																			
Anglia Battleford Lloydminster Luseland	54 51 52 41	101 10 105 20	1620	16 6 17 7	-11 7 -	1 23 3	41 0 15 0	11 3 4	-15 0 -17 0 -16 0	2) 21	21 4 15 4 17 4	i5	-0 3.4	0.15	1	10 10	3		
Onion Lake. Prince (Meota) St. Walburg Scott (Ex Farm) Waseca	52 1 18 12 51 1 51 5 51 5	10 59 10 20 109 4 109 30 109 29	17(1)	12 15 6 16 o		3 7	41 9 43 5 44 0		_25 n -12 s -14 e	25 25	24 5 17 7	4 ·	= 1	0 =0 0 +5 + 1	3	2 22	3		.i
The Saskatchewan Forks																			
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Qu'Appelle and Assini- boine Rivers																			
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Carman Cypress River Hillview Minnedosa Ninette Ninga Sorquay	\$9 13 49 55 50 15 44 24 44 14	09 3 10 033 99 5 1 64 28 99 51	1232 1400 1600 1363 1543	14 0 15 8 26 5 2 1 1	- i i	5.	7 n 4 ) h 51 n 47 l	3-15 11-12	-1: 0 2: 6 11 0	25 25 27 24	1:5 1:5 -1 1:8	0 15 0 15 0 93 0 91	0 10		1 5 1	30 27 51	2		3
Pierson Pipestone Portage la Pravie	49 11 41 34 44 37	101 5 100 58 58 17 98 17	1531 1410	19-9	- 12 7	24	4- /			25.26		10	-0.18	5 10	1				
Portage la Prairie (2) Russell Souris Treherne Virden	4 + 56 5 + 59 4 + 7 49 + 76 49 - 51	98 1 101 20 100 14 98 40 100 55	1212 1444	15 2 2 5 2 1	+ 11 ° + 11 5	1.	46 t 47 F 47	1· 11		25	E.	1 <sup>2</sup> n 13	- 71		1	2-	1		
The Red River												10	- 0.91	1.10	1				
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\*Stations not furnished with Registering Thermometers.

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STATION	V apritude N		I orgitude W	Llevation above sea level, in feet	Mean	Infference from	) r's cheervations	H glest	Date	Lowert	Date	Mean daily range	Amount.	Difference from average	Heaviert fall in month	Pays with 01 cr more.	No of fair days	No of auroras	No of thunderstorn	No. of fogs
Manifora Continued		-						,								, –	_	_	_	_
Darphin Lake and Reve. Bereis River Dauphin Moose Horn Bay (xi kous- ville)	al 51	18 8 15	97 23 400 2 99 53	710 957 819	20.3	_	8	46 B	5-11	1ь 0	25	20 3	8	_	Š	0	31			
Lake Winnepagosis Le Pas		6	101 15	:112	12.1		4	40 0	.,	27 ()	- 21	17.3	0.03		0.09	. 2	9	1		
ONTARIO— The Lake Superior Districts Raing River Fort Frances	15	36	93 25											_						
Kenora Shoal Lake Thunder Tary Kakabeka Falls	49 19	37	9 32 95 6 89 26	912	20.1	+ . 3	12	41.0 46.0 53.0	5 11 11	- 17 t -11.5 -11 0	24 26 25	10.8	0 05 0 12 0 23	-1.09	0 05 0 0J 0.20	. 2	30 29 29			
Port Arthur, Schreiber Olyoma	15	97 50	89 12 87 Li	644 644	21.9 25 0 2± 6	- 10 6	10	50 o 52 5	5	-11 0 -14 5	25 34	21 2 15 0 14 9	0.48	-0.61	0.50	3	28 28		::	1
Biveo Bruce Mines Chaple of Copper Chiff Grassett	111111	40 IS 4 8 8	\$2,11 \$3,55 \$3,28 \$0,59 \$1,29	13 .3 595	18 9 27 0 20 8 24 6	+ 0 2	1 15 5	42 2 52 0 45 5 46 0 44 0	5 5 5 7	19 0 3 0 17 0 8 0	26 24 22 26	15 8 14 7 13 7 18 8	1 33 0 64 0 64 1 01 0 25	-1 53	0 65 0 57 0 50 0 30 0 10	7 2 3 8 5	24 29 28 23 28			. 1
Heron Ba., Parcupine Providence Bay Liminus (Sandy Lalls White River	10	40 40 40 5	\$3.14 \$5.50 \$1.30 8+16	1252 885 1248	15 N 18 3 17 J	- - - + + 2	3 3 1 11	12 0 15 0 41 5 43 0	11 i-18 ii 5	-25 0 - 2 0 -72 0 -31 0	26-27 26-27 54	19 1 15 8 20 0 24 8	0 70 0 55 2 36 0 70	_	0 20 0 50 0 60 0 20-	5 4 10 7	26 27 21 24	1		1
Nipissing Cochrune Hadeybury Troppos Polls Montreal River	19 17 15 17	29 29 45 8	81 0 70 30 80 10 79 2	946 687 830	14 5 1 9 15 5 21 2	: \$ 4	2 18 1 3	36 0 35 7 37 2 41 0	1-14 5 5	$\begin{array}{c} -27 & 0 \\ -16 & 9 \\ -23 & 4 \\ -20 & 0 \end{array}$	26 31 26 31 34	17 6 16 5 19 0 19 7	1 30 2 32 2 00 1.04	+0 07	0 30 0 71 0 35 0 40	8 12 16 6	23 19 15 25	1	 	2
Upper Ottawa River Ruthorg'en (Lafor Lafon) Stoweliff (Rockliffe)	\$1 16	15	74 18 78 6	557	22 2 22 3	: 19.3 E.S.;	19	41 0 42 0	3 5	= 15 5 = 8 0	20 27	15 1 16 8	1.15 I 46	-1 25 -6 23	0 30	7 20	24 11	1		: ;
Upper St Lawrence and Lower Ottawa Rivers Almonte Ricontifiel Hiller Kingston Montague Mortisburg North Gower Ottawa Renfrew	45 11 11 45 45	12 59 13 56 56 8 26 26	76 13 77 27 76 29 75 57 75 12 75 47 75 42 76 27	300 260 285 264 416	25 to 30 7 25 to ad 9 26 2 21 4 21 4 21 1	+ 5 7 + 6 7 - - - - 7 5 + 7 0	314 32 4 1 10 20 22	45 2 50 0 44 0 43 1 40 0 4. 0 41 0 4. v	7 5 5 18 	6 8 9 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	25 27 27 28 27 28 21 21 22 28	13 3 13 8 9 0 11 7 14 1 15 6	2 04 0 47 0 42 1 66 1 00 1 27 1 78 2 40	-2 19 -1 18 -1 18	0 60 0 22 0 20 0 61 0 61 0 49	8 5 3 10 6 5 	23 26 28 21 25 25			5
Georgian Bay Counties Bartice Beatitice Bug Clinto (Bushas P.O.) Coldwater Collingwood Gravenhurst Huntaville Mulland Menford Ordin Owen Sound Parry Sound Parry Sound Romanie	44 44 44 44 44 44 44 44 44 44 44 44 44	2 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 ×	79 41 79 79 79 08 79 40 80 79 40 79 5 79 5 79 5 80 5 90 5 80 5 80 5 80 5 80 5	839 809 675 660 750 775 835 1028	29 9 27 7 27 9 27 7 28 6 31 6 30 0 29 1 1 28 9 3	+ 6 1 + 7 9 1 + 6 8 - 7 5 9 + 7 6	34 35 43 6 6 3 37 6	48 0 45 0 49 0 53 0 47 0 55 0 55 0 53 0 18 0 46 0 46 0	1 5 2 2 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	- 1 0 -10 8 - 13 0 - 8 0 - 11 0 - 9 0 - 4 0 - 1 0	27 27 27 27 27 27 27 27 27 27 27 27 27 2	11 4 15 0 16 7 19 8 15 7 12 5 12 5 12 9 45 5 15 8	1 04 1 31 0 75 0 48 1 39 1 29 0 55 0 56 	-3 24 -2 55 -2 14 -3 23	0 30 0 37 0 45 0 30 0 20 0 46	13 6 5 4 8 8 8 3 3	23 25 28 28 28	1		2
Lake Huron Counties Birnam Cinton Godenich Luckmow North Brace Southampton	13 13 13 11	32 45 56 23 30	\$1.55 \$1.87 \$1.40 \$1.50 \$1.25 \$1.21	600 908 656	32 9 30 8 33 1 29 3 32 1 32 2	+ 5 2 + 6 2 - 5 5 + 3 8 + 6 5 + 4 8	30 11 23 25 25 25	51 0 53 0 53 0 19 0 55 0 52 8	2 1 1 1 1-2	- \$ 8 5 0 - 4 6 0 0 2 1	22 25 27-28 27 27 27	9 4 1' 0 9 1 11 8 - 11 0	1 1! 1 12 0 56 1 02 0 72 0 74	-2.35	0.44	4 9 7 6 4	27 22 24 25 27 20			1
Lakes St. Clair & Erie, Magara Pennisula Chatham Outstain Duttoe Grimshy Peles Island Port Burwell Port Burwell For Harwell St. Catharmes Stoney Crock Wallaceburg Welland Windor	43 11 11 11 12 12 13 12 12 12 12 12 12 12 12 12 12 12 12 12	2.5 40 10 50 30 20 40 13 50 50 20	82 12 82 45 81 37 71 36 82 35 80 55 90 13 81 12 79 45 79 47 79 17 83 4	545 306 589 635 542 347 249 577 895	34 2 50 6 79 7 6 32 3 32 4 33 4 34 5	+ 6 5 + 0 4 + 0 4 + 4 6 + 4 0 + 6 1 + 7 5	27 1 4 10 8 3 5 5 2 8 40	55 0 55 0 57 0 52 0 49 0 53 5 50 8 53 0 52 0 51 0 59 0	17 6-7 1 7 4 5 5 7 1-11 1	16 0 10 0 2 0 4 0 	22 21 25 26 27 27 27 27 27 27 27 27	12 6 15 5 14 5 14 5 11 5 9 1 11 6 13 1 12 6 11 9 11 6 10 0	0 29 0 99 0 20 0 33 0 38 0 66 1 17 0 72 0 06 1 .24 0 86	-1 53 -1 73 -1 73 -1 77 -1 87 -2 14 -2 37 -2 52	0 20 0 15 0 19 0 40 1 0 45 1 0 49 0 60 0 04	23 1 4 4 8 22 J 22 5 3	30 27 27 27 23			1 2

# TEMPERATURE AND PRECIPITATION AT STATIONS IN THE DOM. STON OF (ANADA, DEC. | )

\* Stations not furnished with Registering Thermometers

		sea				Tim	H LEVI	t! =			1 :	IPIT.		ore.			d.	
STATION	Latitude N Longitude W.	Elevation above so level in feet	Mean,	Difference from	Yr's Observations	Digital	Date	1 set # 67 [	Pate	Mean and angle	An unt	Difference from Average	Beavest for a	Dayswith thorns	db) +	N. of aurotas	No of thursternana.	No. of fogs
ONT-MIO "Continued — West-Central Counties Alton. Brantford. Elora. Guelph. Listowel. London. Paris. Saelburne Stratford Woodstock.	13 51 80 5 43 10 80 5 43 10 80 24 43 33 80 16 43 33 80 16 43 44 80 58 42 59 81 13 43 12 80 25 44 5 80 47 43 23 81 0 43 8 80 47	1259 750 1274 (050 1262 808 819 1191 980	25 7 31 4 25 7 30 5 26 2 31 2 31 2 25 9 2+ 8	+ 5 4 3 + 6 7 + 4 3 + 6 7 + 4 3 + 5 0 + 4 1	29	49.1 53.0 49.9 45.0 50.0 50.0 42.0 42.0	2 14 5 1-3 1 2-3 1-5	2 4	27 25 25 27 27	12 + 14 + 12 4 11 4 12 8 13 0	1 777 4 41 4 43 0 75 0 75 0 75 0 75	-1 59 2 04 -2 45 -1 76 -2 57 -1 75 -1 75 -1 75 -1 75 -1 75	0 30 0 40 0 40 0 40 0 50 0 50 0 50	- à				52 2
Lake Ontario Counties Agincont. Autora Hamilton Oshawa Toronto, Toronto Is (Lakeside Home) Uxbridge Wexford.	43 47 79 16 43 57 79 24 43 57 79 24 43 53 78 52 43 40 19 24 43 40 79 24 44 5 79 8 43 44 70 17	590 856 303 331 350 886 555	31 0 27 1 33 2 30 9 33 4 33 9 28 9 29 3	+ 7 7 + 9 0 + 7 3 - 5 5	19 6 55 12 75 9 2	52.0 45.5 52.0 50.0 51.0 51.0 47.0	5 5 1-5 1-7	$-\frac{2}{5} \frac{0}{0} \\ -\frac{6}{5} \frac{0}{0} \\ \frac{4}{5} \frac{0}{0} \\ \frac{6}{5} \frac{4}{7} \\ \frac{7}{0} \frac{0}{0} \\ \frac{1}{1} \frac{1}{0}$	25 27 27 27 27 27 27 27 27 27 27 27 27 27	11 0 14 0 10 6 14 9 12 1 12 0 11 1	0 +6 0 85 0 44 1 25 1 04 1 13 0 45	1 46 -1 25 -1 56 -2 21 -1 57	0 40 0 40 0 15 0 70 0 70	2 4 C 2 C 2 C	26 27 28 29 24 24 29			3
East-Central Counties Baneroft Haliburton Kurmount Lakebield Lindsay Madoe Norwood Peterboro Uras	45 1 77 50 45 1 78 28 44 45 18 38 44 25 78 15 44 20 77 29 44 24 77 57 44 24 77 78 19 44 54 78 18	1050 920 850 872 575	23 0 27 5 24 8 31 5 28 7 27 3 28 1	$\begin{array}{c} +555 \\ +87 \\ +59 \\ +191 \\ +71 \\ +60 \\ \hline \\ +72 \\ \end{array}$	24 26 14 30 -4 10 2 45	45 0 45 0 46 0 5 0 48 0 49 0 52 0 49 0	2-7	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	31 22 22 22 22 22 22 22 22 22 22 22 22 22	17 0 15 2 16 3 16 0 16 2 12 4 16 2	0 75 6 65 6 87 0 88 1 34 0 90 1 10	1 65 -1 57 -3 59 -1 62 -1 54	0.50 0.70 0.39 0.70 0.90	3 4 5 5 1 5	28 27 23 26 30 26		i  	2
Quence Middle St, Lawrence Bequeeville. Brome Cap Rouge Celar Rapids D'Ismeli Drummondville Huberdeau Huntingdon Montreal Nicolet. Quebec St, Lin, Shawbridge Shawingan Falls	46 11 70 48 45 10 72 36 46 46 71 18 45 21 74 5 45 55 71 21 44 30 72 30 45 59 74 41 45 30 73 35 46 15 72 36 46 27 75 0 46 48 71 13 45 47 43 46 34 72 43	557 678 132 896 960 187	19 5 7 24 7 21 27 4 2 21 6 7 21 6 7 21 6 7 21 6 7 21 6 7 21 6 7 21 6 7 4 9 4 7 4	+ 6 2 + 7 3 + 6 3	1 3 1 1 1 1 1 1 1 2 1 2	40 0 42,0 37 0 41,0 38 0 40 0 43 0 43 0 44 0 40 0 42 0 40 0	18 7-17 4 3 15-17 8 5 7 11 17 4-22 3-10 14	$\begin{array}{c} 22 & 0 \\ -16 & 0 \\ -11 & 0 \\ 0 & 0 \\ -19 & 0 \\ -8 & 0 \\ -10 & 0 \\ -7 & 2 \\ 1 & 6 \\ 3 & 0 \\ -1 & 5 \\ 1 & 2 \\ 10 & 0 \\ -2 & 0 \\ -7 & 0 \end{array}$	31 27 19-29 27 29 2-30 21 25 28 27-28 31 27-28 31 27-28	18 3 12 1 15 3 8 12 9 12 8 13 1 15 3 2 12 15 6 6 15 2 15 6 8 15 8	1 40 2 86 3 208 3 26 2 20 1 25 1 26 3 46 2 20 2 44 2 26 4 4 2 44 2 43	+ 0 77 	0 90 0 60 0 80 1 00 1 20 0 53 0 0 87 0 87 0 80 0 44 1 2 0 68	9 10 15 5 6 11 13 11 16 5	22 21 16 26 25 22 20 18 22 25 22 25 22 25 25 25 25 25 25 25 25			1
Lower St. Lawrence & Gulf *Anticosti E. Pt Anticosti, S.W. Pt *Anticosti, W. Pt *Bicquat *Cape Chatte *Cape Magdalen *Chauspscal Futher Point Ste Anne de la Pocatiere Tadousse.	49 6 61 43 49 49 52 64 32 48 25 68 53 49 6 65 45 49 16 65 20 48 21 67 22 70 2 48 10 69 47	30 30 30 93 450 20 65	20 9 27 1 22 7 17 2 21 4 17 5 18 9	+74 +44 +57	30 1 36 3	75 0 46 6 38 0 35 5 36 2 79 0	4 21 14 15 14 14 14	10.0 10.0 5 0 -11 0 0 0 -20 2 -11 0	51 31 29 25 31 31	15 7 12 7 16 7 14 3	3 15 2 20 1 85 2 20 1 88 1 18 1 94		1 20 1 80 0 90 0 80 0 80 0 80 0 40	9 7	21 28 16 23 22 24 19			1
Lake St. John Chicoutimi (2) Lake Edward Lak Tuque Miatawini (2) The Northwestern Districts Abitibi Amor Chine Dam Chine Band Chine Chin Chin Chine Chin Chin Chin Chin Chin Chin Chin Chin	48 25 71 5 48 25 71 5 47 30 72 15 47 27 72 44 48 51 72 15 48 33 79 22 48 36 78 7 47 34 79 16 46 41 79 7 47 54 79 25 48 12 75 43	150 1333 520 360	16 4 20 3 14 2 17 5 16 0 23 6 24 9 20 3 14 6	± 8 9	3 2 1 1 1 1 1	37 0 42 0 37 0 39 0 39 0 44 45 72 1	14 15 14 13 14 2 4 2 1 13 2 3	- 9 0 7 0 11 5 - 6 0 - 27 0 11 0 4 1 20 0 3 1	2 (+24 	9 5 18 4 16 5 15 1 16 7 17 8 15 8	2 50 1 40 0 45 1 3 1 6 2 46 1 51 1 57 1 2	-0.07	0.54 0.60 0.50 0.50 0.70	1.7 1.7 	18 28 18 19 27 19 27	. 1		2
Clarke City Naw Burnswuck— Chatham Dalhousie Edmunston Fredericton (Ex-Farm) Grand Falls Moneton Point Lepranux 81, John 88, Rephen	50 10 68 25 47 3 65 29 48 4 66 36 5 66 36 7 7 67 14 48 7 64 45 45 17 66 4 45 11 67 68 45 18 6 4 45 18 6 4 45 18 6 4 45 18 6 4 45 18 6 4 45 18 6 4 45 18 6 4	21 39 164 106 50 30 70 35 96	22 4 21 5 23 6 23 7 26 4 26 5	- 3 U - 6 0 - 7 0 - 4 1 1 - 4 7 0 + 7 0	11	#1 0 #5 1 #5 1 #5 1 #5 1 #5 2 #5 2 #5 2 #5 2	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	+ 3 () 4 () 12 () 14 () 13 () 12 () 12 () 7 ()	21 22 27	14 8 11 9 15 1 17 1 17 1 17 7 17 6 17 7	3 2 2 40 2 40 2 67 3 72 2 61 2 61	-0.15 -0.55 -0.55 -0.82 -0.25 -1.24 -0.25	0.80 1.5 1.1 0.0 85 75 1.4 1.5 1.7	35.17.40.75	\$10014704643			2

### $\texttt{FEMPERATURE} \ \ \textbf{AND} \ \ \textbf{PRECIPITATION} \ \ \textbf{AT STATIONS} \ \ \textbf{IN THE DOMINION OF} \ \ \textbf{CANADA, DEC., 1913}.$

#### \*Stations not furnished with Registering Thermometers

. ——— -		g				ТЕМР	ERATUI	616			PRE	IPITAT	ION	more		1	9.	_
STATION	Latituile   Latituile   Liopitude	Elevation above sea level in feet	Mean	Difference from average.	Yr > Observations	Highest	Date	Lowest	Date	Mean daily range	Amount	Difference from average	Heaves fall to nouth	Days with .01 or me	No of fair days	Je e	No of thur derstorme	No or fage
Nova Scotta— Advocate. Advocate. Antigonals. Hairfax Kentville Kentville Kentville Kentville Nappan New Germany. Parrebore? Fort Hastings Sable Island, L. Pt Scott Hastings Traro Traro Traro Traro Traro Traro Wintelead Windsor Wolfville. Yarmouth	4. S 61 4. 90 63 5. 3 61 11 0 64 15 46 64 15 23 64 44 30 64 45 39 61 13 58 59 13 57 60 46 10 60 45 22 63 45 25 63 45 25 63 45 15 61 44 59 64 45 7 7 84	40 56 54 54 40 42 45 46 25 6 25 10 55 15 77	28 8 8 30 6 6 24 8 4 24 25 1 29 6 38 .1 31 6 6 27 5 6 6 27 5 6 6 27 34 3	=	30 40 39 11	55 0 48 0	8 8 8 2 2 8 14 4 8 14-26 1-09 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	-1 0 14 2 3 0 6 0 10 0 10 0 10 0 23 0 10 5 11 0 6 5 5 5 7 1 1	177 298 298 299 291 201 201 201 201 202 203 203 204 204 204 205 205 205 205 205 205 205 205 205 205	16 6 14 9 12 6 12 4 12 0 13 5 15 9 17 7 12 7 16 4 11 9	6 24 4 40 5 97 2 81 4 78 1-71 4 84 3 92 4 35 4 47 3 84 4 51	- 0.55 - 0.55 - 0.75 - 0.75 - 0.75 - 0.75 - 0.75 - 0.75	1.75 1.41 1.44 1.86 1.15 1.54 0.54 1.20 82 0.68 1.19 1.20 1.20	17				
P. E. ISLAND— Charlottetown Charlottetown (Exp. Farm) Hamilton Summerside	16 14 t3 16 14 t3 46 25 t3	7 7.5	2× 2 27 6	+ 3 1		50 0 56 0	8 5	16 0 7 0		10-5 13-0	2.79 4.26	-6 95	0.84 0.76	19 15	12 16			
Newforndiand— 'Amour Point Burin 'Cape Norman Fogo 'Point Riche Port aux Bisques St. George's St. Johns	51 38 55 3 49 43 54 50 42 57 3 11 35 50 48 28 58 3	51 27 52 27 52 17 30 25 35 10 27 25 42 125	23 S 29 3 32 0 30 0	_	29 5 23 40	45 0 46 0 51 4 48 0	11 8 9 25	2 0 14 6 11 6 9 0	29 16 16 16	9 1 13 6 9 5	0 17 6 84 2 74 7 05	-12,99 = +1 61	0 05 1 73 0 56 1 25	8   20   17   17	23 9 14 14			1 2
BERMUDA— Prospect	32 17 64	46 151	63 4	- 1 4	.12	72 6	6	53 S	12	10 4	3 68	- 1 30	1.08	15	16			

PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER & DURING DEC. (91)

		R.	AINFA	Lt.			531.0	TALL		
STATIONS	Amount in inches	No of Days 01 or over.		Heaviest Fall	Date	Amount in inches		Heavier Lall in Month	Date	REMARK
Заглан Септиви-										
Alkali Lake			27							
Alkali Lake	1 67 5 12	8	23	0 19	25 24 27	1.3	2	1.0	31	
Cariboo Rond No 141 Deaman's Island		12	20	1 31						
Penman's Island Ferguson Goldstream Lake	5		19	1 + 5	27	27 (6)	5	1 0	14.31	
Goldstream Lake . Hydraulie	3 31	15	15	0.88	theed	for wint	. (1	t.	14-31 25	
Hornby Island Invermere	2.91	6	25	0.76	10	1.2	i	1.	24	
Hydraulie	3 67 6 72 2 4 1	15	11 12	0 55	31 31	2.0	1	2	15	
Little Qualicum(Fr Cr V 1 Lumby		9	12	0.55	27	4.5		3 %	28	
Nas Harbour Rock Creek .	12 49	6 .	22	2 69	. 8	h D		4 1	14	
Lumby Nans Harbour Rock Creek Shuwnigan Lake Sooke Lake Wycliffe	3 57	12	19	0.61	11	7.0				
						, 1)		4 0	31	
ALBERTA-	ti oo					4				
Bardo Bismark	0 111					0.0				
Bruegerheim Bittern Lake	0 0					0.5	1	0.5	23	
Brooks Beaver Mines	0.83					3.0	2	2.0	18	
Cowley	0.01					0.0	1	0.8	31 .	
Caldwell Claresholm Clarinda Dorenlee (Bashaw) Dunstable (Five Lakes) Grassy Lake	(1.1) 1					5 11	1	5 -	31 25	
Clarinda	0 bd 0 dd 0 dd					8	1			
Dunstable (Five Lakes) Grassy Inke Jumping Dound Loch Sloy Lyndon Lineliam La Pearl Laetbridge Macked Mayeroft Mountain View Manwille (Roveroft Ranch)	0.40					0.5 4.0	1	4 ()	23 31	
Jumping Pound Loch Slov	0.50					3 0	2	3.0	31	
Lyndon	0.10				1.	5 2	1	5.2	31	
La Pearl	0.00					2.0	- ;	2.0	31	
Macleod	0.00					6 0 1 7	í	6 (1	31 31	
Mountain View Maanville (Roycroft Ranch)	0.00					2.5	2 2	į,	7-22	
Nateby	11 00	200				8.11	. 1		31	
Okotoks	8 9 (								. 15	
Ponoka	0.40					0 5 H D	i	0.6	31	
Okotoks Pekisko Ponoka Seven Persons Tilley Waterton Mills	0.00					5 U	9	3.0	18	
nateroa m-ns						0 "	-	0.7	1.5	
SABEATCHEWAN—										
Gull Lake Gull Lake (Fks. Swift Cur.)	0.00					0.5	2	0.3	7	
Meadow Lake							- 8 -	17.5		
Meadow Lake The Meadows (Battle Ck.) Willow Creek (Maple Cr.)	0.14									
Wapashoe	0 14	1	30	0.14	31					
Manitona—	0.13	I	29	0.13	7	0.3	1		.6	
Cartwright										
Deloraine Norquay (Swan Lake) Rapid City Rose Bank						0.7		0.3	7 26	
Ontario										
Pront - d/Dom Port Franci	11 (16	3	23	0.03	23	5.2	5	4 5 2 3	23	
Deer Park	0.51	2	28	0 63 0 71	23	5 2 2 3 2 0 9 5	1	2 3 2 0 2 5	23 24 24	
Deer Park Dutton Emsdale Fort Frances	0.40	3	21	0.22	7	4.5	7			
Georgetown	11 (14 11 70)	1	27	0.04		6.1	3	5.3	23 26	
Grand Valley	11 70 23	3	26	0.20		3.0	2	2 0	24	
MacCue	0.10	1	25	0.17	7	11.0	2	7.0	23	
Ningara Palls Nipigon						6 6	1,	2	27	
Point Clark	0.00					0.00				
Sydenham						6.11	1	6 →	24	
Fort Frances Georgetown. Granthum Granthum Granthum Granthum Granthum Granthum Granthum MacCe Ningara Falls Nipigon Princeton Point Clark Rentrew Sydenhum Watford Wawaiton Falls Wastord Wawaiton Falls Westport	0.75	2	29	(1.41)	24	, , , , , , , ,	d Mes	ured c	8	
Wawaiton Falls Westport Westminster	0 35	I I	21	0 11 0 35	2 7	22.5	3 2	6 ± 5 ± 5 ± 2 0	N-23	
Westminater Wesley Wiarton		1.1.1.1.1				4.0	2	5.7	24	
Wiarton	0 24		26	0.24	7.	11 0	1		- 1	

## PRECIPITATION AT STATIONS REPORTING RAIN, SNOW, WEATHER, &c., DURING DEC., 1913.

		R.	AINFAL	L.			SNOW	FALL.	- 11	
STATIONS	Amount in inches	No. of Days 01 or over	No of Fair Days.	Heaviest Fall in Month	Date	Amount 18 inches	No. of Days.	Heaviest Fall in Month	Date	REMARKS
QUESEC-										
Burk Lake (Riviere Desert) Kipawa Dam. Lucerno Perkins Mills Quinze Dam. Timiskaming. Ville Marie.	0 53 0 40 0 45		21 24 24	0 30 0 20 0 45	2-7 7 2-7 7	11 6 11 5 5 4 15 1	8 5 6 12	2 9 9 0 2 5 6 8	7-20 23 30 7	
New Brunswick→										
Point Escumiane	0.20	3	22	0 12	7	16 9	6	10.0	25	
NOVA SCOTIA-									t t	
Big Mushamush Lake (Ma- hone). Kentville. Milton Mushamush River (Mahone) Nappan South Alton	6 37	5		2 11 0 35 2 17	3-20 27	1 8 29 0 11 0	9	18	4 24 21	

PRESSURE, HUMIDITY, CLOUDINESS AND WIND AT STATIONS OF THE FIRST CLASS DURING THE

MONTH OF Fact, to

a Burotnaber not reduced to season

		7.17.		P ts	· LE.		Thin the	Ť.	Í			Len-	2 - 2 1		15.15	3 11.	υM				1/1/1	t p
STATION	Latitude N Foremas W	Elevation above 8	Mean reduced.	Inglest	] owe.t	18.5	Mean relactive but	( Mean an east of e	State of the season			_		,	= 7	=	N. W.	.)		Mean in less perior	Mana m. velocity	I have sur I do not then from
BRITISH COLUMNIA— Adm. Barkerville Kamkops Adm. Prince Rupert Triangle Island a Tranquille Vancouver Victoria.	59 35 131 53 2 121 51 42 (2) 49 10 (2) 54 18 140 50 52 12) 8) 41 120 49 17 (2) 18 24 12)	P.J.	25 75	11.1	3 × 13 1 × 2 × 13 1 2 × 37 2 × 30 2 2 × 30 2 × 30 2 × 30 2 × 30 2 × 30 2 × 30 2 × 30 2 × 30 2 × 30 2	1.14	1 645 5.2	× 0.61-0 - 01414	10	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		1000 4 445	1	1		1 6	0 + 6 2 +	4 45 21 22 13 4	62 62 62 62 62 62	6.4	15	1.
Yukon— Dawson	64 4 100 .	) 1200	21.70	la ca	28.87	1 1											U	4.	12			
ALBERTA— Banff	51 10 115 51 2 114 53 53 113 .		29 9 29 9	G0 5	29 (5 29 25 21 5 21 5	1 3.	11	3			1		1	` `	1 21 21	2 - 2 4	31 3	14 1 6	62 62 62 62	4.5 4.0	2 18	7 NW 13 SI.
SASKATCHEWAN— Battleford	52 41 408 5 50 21 105 5 53 10 106 50 30 103 4 50 20 107 1	20 1620 35 175 7 0 1432 17 2115 15 243 7	\$1 00 \$1 1. \$1 0 \$1 0 \$1 0	[ 30 % [ 30 %] [ 30 %]	20 20 20 20 20 20 20 20 20 20 20 20 20 2	1 05	45	+ 3	1 1 5	1 / 1 / 1	1 3	1 612	1.14 2274 4	1 1 1	11 12 21	11 9 5 4	4 6 6 10 3	11 22 5	62 93 62 62	3 N 19 3 10 0	31	: XW
Manitoba— "Aweme (St. Alban's) . Minnedosa Le Pas Winnipeg .	49 42 99 3 50 15 90 5 53 4 (101 1 49 53 97	1180 i0 16.99 5 860 7 760	5 85 31 1 30 08 31 13	1 24 27 1 30 30 1 30 30 1 30 31	25 60 29 69 21 48 21 71	0 6. 1 23 1 8.	113	4		1			1	1	1:	14	12	24	62 62 95	, . , (	12	117 3
ONTARIO-	49 - 2 ×1	n - 111-						6	11								10	4,	. ,	- ,		14 \ W
Cochrane Guelph Haileybury Kingston London A Lindsay Party Sound Port Arthur Port Stan y Southman p Stonecliff Toronto White Riv r Woodstock	43 33 80 1 47 2 7 0 9 44 13 70 9 42 50 81 1 44 20 78 4 45 20 75 4 45 10 80 42 40 81 1 44 30 81 2 46 9 78 42 40 79 2	6 1050 1855 1858 1858 1858 1859 1859 1859 1859	30 (0 3) 03 4) 04 29 07 30 41 3 + 63 3 + 67 30 06 3 + 07 3 + 07 3 + 02 3 + 02	30 45 30 45 30 45 30 45 30 45 31 40 31 41 41 42 31 40	24.58 24.77 24.76 24.26 24.26 24.26 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46 24.46	1 15 1 2 1 1 1 5 1 2 1 1 1 1 1 1 1 1 1 1	128 33.55 25 21	Tallet and the same of the sam	20 14 17 15 15 15 15 15 14 14	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14 15 10 10 11 11 11 11 11 11 11 11 11 11 11	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Gills of the state of the	12 12 14 1	11 4 1 4 2 1 5 1 2 2	1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	111111111111111111111111111111111111111	62 62 62 62 63 63 63 63 63 63 63 63 63 63 63 63 63	9 6 8 6 14 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	23 27 27 27 27 27 27 27 27 27 27 27 27 27	100 100 100 100 100 100 100 100 100 100
QUEBEC Anticosu S W. Pt Father Foint Montreal Que ec She brooke	45 30 13 3	5 30 9 20 5 187 3 29 5 629	2 ( 93 2) (0) 2) (0)	30 5 - 30 4 - 30 54	21 12 21 17 21 07	1 15 1 11 1 47	81 71 82	i i	11	4	111	. 1	1	12	11	57.5	24 16	1 1 2	#(1)	14 T	12 41	8 N 26 NE
New Brunswick— Chath m Fredericton St Jo n	17 3 65 2 45 57 66 3 45 17 66	9 21 1 164 4 70	29 92 24 94 24 94	30 6. 30 6. 30 5.	28 (6) 28 (7) 28 (82	17.			11 11 13		:	4	į		l: to	17	14 25 33	0 / 5	62	7.7	1	11 / /
Nova Scotia— Halifax	44 30 c 3 43 57 m 43 10 c 1 45 25 c 1 45 7 c 4 2	6 25 6 35 8 35	21 S	30 54 30 56 30 51 30 51		1.50			1 5 1 2 2 2	12			1			*	15 25 11 22			12.6	11 48	27 NE
P. E. ISLAND Charlottetown	46 14 03 1				28-81				1 ~								1.			5 1	2-	11
NEWFOUNDLAND Burn Fogo Port aux Basques St. George's St. John's BERMUDA Prospect	17 15 1 19 4 14 1 47 15 1 1 48 27 18 3 47 04 12 4 32 17 34 4	0 27 1 21 2 125		30 55 30 42 30 34	28 17 25 10 25 10 24 67	1 0 1 40 1 60 1 60	11	· ·	200	1	11	1	1		111111111111111111111111111111111111111	i ;	12 12 51	1	12			

FREQUENCY OF THE WIND FROM THE EIGHT CARDINAL POINTS AT STATIONS OF THE SECOND CLASS, DURING THE MONTH OF DECEMBER, 1913

			DIRI	- ECTIO	N OF	 IW	E ND E	ROM		
			DIK	20170	., 01		(1) 1			<u>.</u>
STATION	ż	N.E.	ъ	S.E.	s.	S.W	M	N.W	c)	Total number of Observations
Alberta— Athabasca Landing Didsbury	<b>0</b>	1	3 3	6	3 7		6	0 3	0	31 31
Endung Halkirk (Emsburg) Hillsdown Loveland Macleod	2 2 1 4	1 2 4 0	2 1 1 2	6 11 0	15 4 10 0	20 9 9	3 0 7 38	8 11 9	0 27 0 17	62 62 62 62
Pakan (Victoria) Ranfurly (Waitefield). Saskatchewan—	2	2	3	18	20	15	···· 7	18	8	93
Chaplin Crescent Lake Estevan Fort Qu'Appelle Grenfell (Brownhill) Indian Head Larchmount (Glenbryan) Moosomin	3 5 0 0 1 3 2	0 1 1 3 4 2 1	2 1 2 9 2 0	0 2 4 5 10 8	11 7 1 9 6 10 5	1 7 1 9 11 34 26	10 7 3 24 2 13 11	1 1 4 2 6 19 12	3 0 15 1 0 4 2	31 31 31 62 42 93 62
Muenster (St. Peter's Monastery)	0	4	4	10	18	5	9	2	0	62
Onion Lake Pense (Gatesgarth). Waseca Manitoba—	0	2 1	0 2	13	0	5 1	5 8	6 16	0	31 31
Berens River Brandon Hillview Moose Horn Bay (Aitkensville).	0	12 12	3 2	6 7	2 9	20 11	12 11	7 41	13	75 93
Morden Oak Bank Stony Mountain	13 13 1	1 3 0	0 2 1	5 1 1	8 9 14	4 11 13	15 9 8	9 9 20	7 5 0	62 62 58
Ontakio — Agincourt Alton Beatrice Birnam Clinton Cottam Gravenhurst North Bruce Orillia Owen Sound	1 14 10 5 3 21 11 7 4	3 2 1 2 3 0 6 6	10 8 0 2 0 6 7 19 0	0 1 4 3 8 1 17 3 1	1 3 8 11 7 3 9 17 8	29 10 8 15 20 3 13 10 5	21 50 4 6 3 26 9 15 9	25 5 15 11 17 2 12 14 3	0 0 43 7 1 0 9 2	90 93 93 62 62 62 93 93 31
Point Clark	5		3			4	11	5		31
Stoney Creek Uplands Wexford	6	16	6	5	1	9	39 1	11 7	05	93
Quebec Abitibi	24	3	8	1	25	7	12	13	0	93
Anticosti, Heath Point Bicquet Bromc Cape Chatte Cape Magdalen Cap Rouge Chicoutimi Clarke City Munouan Crossing White Shore Lake	8	9 3 3 0 6 18		1 6 0 3 0 0	25 16 0 25 0 0	21 7 5 4 0 1	9 41 35 5 0 6	16 4 12 46 21 15	2 2 26 5 0 46	93 93 93 93 93 31 93
New Brunswick – Dalhousie Moncton Pt. Lepreaux Sussex	0 1 22 0	1 9 12 5	4 3 7 0	2 3 1 0	2 0 1 0	0 0 8 1	17 1 3 1	2 14 27 7	0 0 0 16	28 31 81 30
Nova Scotia— Kentville Parrsboro	2	1	6	2	5	2	7	6	0	31
Port Hastings Sable Island, E. Pt. Truro	1	17	0	16	3	22	0	34	0	93
Whitehead	9	3	2	, 1	4	7	3	2	0	31

MEAN PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN THE MONTH OF DIJCEMBER 1915.

									Нос	rs Est	ers o							
STATION.	4 n.	5 а т.	6 a m	. a m.	Sam.	9 a m.	и и п	11 a m	Noon	1 5 10	E E	a d c	4 p m	5 p m	u d y	8 -	m d v	op m.
Shawaigan Lake						01	14	16		-2	1.	- 15				~ ~ ~		
Victoria							1.5	1.5	21	27	26	14	4					
Salmon Arm					Т	102	17	21	-2	_6	20	16						
Nacaimo																		
Vancouver							63	11	17	17	21	16	۵					
Agassiz							16	25	28	31	2)	- 2	14	1.3				
Tranquille .						01	15	23	02	53	51		119					
-ummerland						(lu	04	07	10	10	18							
Kamloops						03	.29	37	41	.25	14	13						
Harper's Ranch																		
Invermere .							.09	19	27		411	15						
Edmonton					01	15	54	1,7	65	67	54	45	C5					
Lethbridge						16	55	63	77	7.5	76	65	65	(1%				
Lacombe						17	4.2	.57	7.1	.73	76	71	1					
Medicine Hat						UN	.42	56	61	511	6.1	62	27					
Fort Dunvegan									25	.67	86	18						
Fort Vermilion																		
Battleford																		
Indian Head						.12	41	.59	70	70	65	.56	14					
Moosejaw						29	49	64	73	65	73	61	18					
Scott					.14	37	44	5 <u>u</u>	53	55	44	.27	02					
Rosthern						14	30	45	59	.26	59	57	35					
Brandon						18	36	55	67	.70	7.2	44	**1					
Winnipeg					T	07	19	29	42	58	60	55	13					
Haileybury						16	31	35	41	, 12	40	411	34	T				
Woodstock					01	11	18	31	411	32	36	37	25	63				
Lindsay						05	15	.27	29	.31	42	.45	.32	.03				
Barrie					02	1:	25	. 2	28	25	27	12						
Toronto					T	16	3.)	5.2	36	44	4.5	4.5	31	62				
Kingston					T	11	21	23	25	37	35	31	20	, t2				
Ottawa					01	24	30	25	27	25	41	40		.02				
Montreal																		
Cap Rouge						05	16	21	24	22	25	21	06					
Quebac						12	21	.34	35	30	32	.15	15					
Ste Anne de la Pocatiere					114	21	31	35	.32	26	30	25	12					
Sherbrooke																		
Fredericton						23	37	46	53	57	55	511	41	01				
Charlottetown			1			.07	21	21	22	20	26	15	22	.01				
Nappan						07	26	35	33	37	4.3	36	40	- 2				
Wollville						12	27	37	03	5.3	. 6	, 54	26	11				
Kentville						12	27	30	32	25	37	55	3.2	111				

Mentythe	10	ć.	1	- 5	ĉi	=======================================
Wolfrille	1-	17	1	5	ć,	5.
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Lethbridge.	-6	62	1	3	-	-
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Harber's Ranch						
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Transquille.	50	ë	i	é	5	3
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acomments	Ę	å :		٠.		54
2	tatio	od u	m av	ercen	nann	er of days pletely cloud-
£ .	d du	ratio	e fro	n Fr	avin	refs:
DEC. 1913	Registered duration in hours	Percentage of pos- sible duration	Difference from average	Maximum percent- age in one day	Date of maximum	Number of days completely cloud- ed

SUMMARY OF SUNSHINE RECORDS

# Thunder recorded:

- 1.
- 2.
- 3.
- 4.
- 5.
- c
- 7. Haliburton.
- 8.
- 9. Bruce Mines.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.
- 21.
- 22.
- 23.
- 24.
- 25.
- 26.
- 27.
- 28.
- 29.
- 30.
- 31.

. 1	wroras recorded:
1.	Atlin, Halkirk,
2.	
3.	
4.	Cartwright IV, Aitkensville IV, Anglia, Ranfurly IV, Hillsdown IV.
5.	Cartwright IV, Madoe IV, Mistassini IV, Gravenhurst IV.
6.	·
7.	
8.	
9.	
10.	
11.	Wawaitin Falls.
12.	
13.	
14.	
15.	
16.	
17.	
	Prince IV.
19.	
20,	
21.	
22.	
23.	
24.	Cartwright IV, Aweme IV, Prince III, Pambrum I, Anglia, Ranfurly III, Hillsdown IV,
	Campsie III, Beaver Lodge IV.
	Cartwright IV, Treherne IV, Aweme IV, Prince IV, Anglia, Minnedosa.
	Winnipeg.
27.	
28.	Min. h
	Minnedosa Pambrum.
	1 am/n unt.
31.	

#### FORECASTS FOR DECEMBER 1913

The forecasts issued by this office at 11 p.m. each night, are for the 24 hours beginning at 8 a.m. the tollowing day; and are published in most morning newspapers

The number of these predictions issued during the month was 1357. These were divided as follows:

	District		Verified.				
			No Issued.	No.	No.	No	l'er
			is-ucu.	Full:	Partly	Not	centage
Alberta.					14		91.4
Saskatchewan			51		15	4	55 %
Manitoba			-1	4, 4	17		50.5
Lake Superior .			119	6.8	2.2		84.2
Lower Lake Region			125		2.		46.1
Georgian Bay			125		2.3	Ğ	×4,
Ottawa Valley .	,		. 116	89	21	ti	×5 ×
Upper St. Lawrence			117	~ +	15		*11.5
Lower St. Lawrence			127	92	31	1	84.6
Gulf			127	97	24	ř,	55.5
Maritime Provinces West			127	91	22	7	83 1
Maritime Provinces East .			131	57	53	11	79.0
Total			1357	1200	267	67	55.2

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART Director.

Meteorological Office, Toronto, Jan. 21st, 1914.



